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## **APPENDIX A**

### **CEQA-Plus Documentation**

# APPENDIX CEQA+

Drinking Water State Revolving Fund Application  
(Environmental Package)



**State of California  
State Water Resources Control Board  
Drinking Water State Revolving Fund Application - Assessment of  
Compliance with Federal Laws**

**Introduction**





# **ENVIRONMENTAL PACKAGE CONSTRUCTION**



# **ATTACHMENT 1**

*Notes to Support the Environmental Package*



# Attachment 1: Notes to Support the Environmental Package

## II. California Environmental Quality Act (CEQA) Status

### a. List and describe all related environmental permits, approvals, and certifications required for the project:

U.S. Army Corps of Engineers (Section 408 Permit); California Department of Industrial Relations, Division of Occupational Safety and Health, Mining and Tunneling Unit (Permit for construction of trenches and tunnel classifications); State Water Resources Control Board (Notice of Intent to comply with the General Construction Activity Permit and Notice of Intent to comply with the General Waste Discharge Requirements for Discharges from Drinking Water Systems to Surface Waters); Los Angeles Regional Water Quality Control Board (Notice of Intent to comply with the General National Pollutant Discharge Elimination System Permit for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters); Los Angeles County Department of Public Works Flood Control Utility Crossing Permit and easement (access and modification to the Browns Canyon Wash and Kelvin Channels).

### b. Environmental Setting Explanations:

Noise: As discussed in Section 3.12 of the Initial Study / Mitigated Negative Declaration (IS/MND), the project would occur within the vicinity of residential sensitive receptors, and noise and vibration would increase during construction. However, mitigation would be applied to the project to ensure that significant noise and vibration effects do not occur during construction. No operational noise impacts would occur.

Traffic: As discussed in Section 3.16 of the IS/MND, potential traffic-related impacts could occur during project construction. However, mitigation would be applied to the project to ensure that significant traffic impacts do not occur during construction. No operational traffic impacts would occur.

Hazardous Materials Sites: The project area includes several properties that are listed as hazardous materials sites pursuant to Government Code Section 65962.5. Contamination at these sites has been remediated to the satisfaction of the applicable regulatory agencies or is currently undergoing cleanup under regulatory agency oversight. Furthermore, project construction would occur entirely within the public right-of-way, and the listed sites generally occur outside of the public right-of-way. Only one listed site is within the right-of-way: the Los Angeles County Metropolitan Transportation Authority Orange Line (California Department of Toxic Substances Control Site Cleanup Program; ID No. 60000187). Remediation for the site was completed in 2004. As such, the proposed project is not expected to disturb or affect a hazardous materials site.

## IV. Evaluation Form for Federal Environmental Coordination

### a. Environmental Alternative Analysis:

#### Proposed Project Alternative

The proposed project would involve pipeline replacements along several segments of existing potable water trunk lines in LADWP's service area (specifically, in the western San Fernando Valley). The portions of the existing trunk lines that are proposed for replacement are aging, deteriorating, and nearing

the end of their service life. The proposed replacements would increase the safety, capacity, and reliability of LADWP's water system in the western San Fernando Valley.

As shown in the attached IS/MND, the proposed project would result in potentially significant impacts in the categories of biological resources, cultural resources, noise, traffic, and tribal cultural resources. Such impacts would be both direct and indirect. However, mitigation measures are listed in the IS/MND that would reduce all potentially significant impacts of the project to below a level of significance. Additionally, the cumulative effects of the project were analyzed in the IS/MND and determined to be less than significant, after incorporation of the mitigation measures identified in the IS/MND. The mitigation measures set forth in the IS/MND are listed below:

**MM-BIO-1: Nesting Bird Avoidance**

If establishment of the potential staging area occurs during the migratory bird nesting season (typically February 15 through August 31), an avian nesting survey of the potential staging area and contiguous habitat within 300 feet of the staging area for protected native birds (within 500 feet for raptors) shall be performed by a qualified wildlife biologist 72 hours prior to construction in accordance with the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703–712) and California Fish and Game Code, Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate no disturbance buffer, which will be determined by the biologist based on the biology of the species (typically 300 feet for passerines and 500 feet for raptor and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing.

**MM-CUL-1: Inadvertent Discovery of Archaeological Resources**

In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under CEQA (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted.

**MM-CUL-2: Paleontological Monitoring**

Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist. The qualified paleontologist shall attend the preconstruction meeting and be on-site during all rough grading and other significant ground-disturbing activities in previously undisturbed older Quaternary alluvial deposits, if encountered. These deposits may be encountered at depth below ground surface. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontology monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed project. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology (SVP) (2010).

**MM-CUL-3: Inadvertent Discovery of Human Remains**

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the project site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

**MM-NOI-1: Construction Noise Reduction**

The Los Angeles Department of Water and Power and/or its construction contractor shall comply with the following measures during construction:

1. Construction activities shall not occur between the hours of 9:00 pm and 7:00 am Monday through Friday, 6:00 pm and 8:00 am on Saturday, or on Sundays or national holidays. In the event that construction is required to extend beyond these times, extended hours permits shall be required.
2. Pumps and associated equipment (e.g., portable generators etc.) shall be shielded from sensitive uses using local temporary noise barriers or enclosures or shall otherwise be designed or configured so as to minimize noise at nearby noise-sensitive receivers.
3. Staging of construction equipment shall not occur within 20 feet of any noise- or vibration-sensitive land uses.
4. All noise-producing equipment and vehicles using internal combustion engines shall be equipped with mufflers; air-inlet silencers where appropriate; and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.
5. All mobile or fixed noise-producing equipment used for the project that are regulated for noise output by a local, state, or federal agency shall be in compliance with regulations.
6. Idling equipment shall be kept to a minimum and moved as far as practicable from noise-sensitive land uses.
7. Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where feasible.
8. Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.
9. The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be used for safety warning purposes only.

**MM-NOI-2: Notification**

Effective communication with local residents shall be maintained prior to and during construction. Specifically, the Los Angeles Department of Water and Power shall inform local residents of the schedule, duration, and progress of the construction. Additionally, residents shall be provided contact information for noise- or vibration-related complaints.

**MM-TRAF-1: Construction Traffic Management Plan**



Prior to the start of any construction-related work or encroachment, the Los Angeles Department of Water and Power (LADWP) shall develop and implement a Construction Traffic Management Plan. The Construction Traffic Management Plan shall include but will not be limited to the following measures:

1. All construction activities shall be conducted in accordance with the Standard Specifications for Public Works Construction (Greenbook) and traffic control plans designed by the City of Los Angeles Department of Transportation (LADOT) and LADWP, to allow the least impacts to levels of service, traffic safety, and emergency access to the site during construction.
2. LADWP shall install temporary equipment necessary for safe and efficient traffic control including changeable message signs, delineators, arrow boards, K-Rails, flagmen, etc.
3. LADWP shall provide advance notification of the proposed construction work area limits and lane closure times to transit services and all local emergency service providers (police, fire, ambulance, etc.).
4. Qualified flagmen shall be posted at each work site to direct construction traffic entering and exiting the site and/or to direct large construction-related vehicles to/from the work areas.
5. Two-way travel shall always be provided along De Soto Avenue and affected cross-streets throughout construction. During construction periods with reduced lane capacity at impacted intersections, LADOT/LADWP shall implement a Traffic Control Plan that includes the provision of detour routes around the impacted intersections. The detour routes would include the use of adjacent parallel collector streets such as Mason Avenue (0.5 miles to the east) or Canoga Avenue (0.5 miles to the west), both four-lane divided roads classified as Avenue II roadways in the City's circulation element). For drivers on the northern end of the route (i.e., north of Plummer Street), in addition to Mason Avenue to the east, access to Topanga Canyon Boulevard (four-lane, divided state highway) would be provided 1 mile to the west. Detours through residential streets would be prohibited.
6. The Traffic Control Plans shall also include detours and safe passage areas for bicyclists and pedestrians in the impacted work areas.

#### **MM-TCR-1: Inadvertent Discovery of Tribal Cultural Resources**

In the event that tribal cultural resources are inadvertently encountered, all construction work occurring within 100 feet of the find shall immediately stop. The Los Angeles Department of Water and Power and any Native American tribes that have informed the Los Angeles Department of Water and Power that they are traditionally and culturally affiliated with the geographic area of the proposed project should be notified in the event of an inadvertent find. If the Los Angeles Department of Water and Power determines that a potential resource appears to be a tribal cultural resource (as defined by Public Resources Code Section 21074), the Los Angeles Department of Water and Power would provide any affected tribe a reasonable period of time to conduct a site visit and make recommendations regarding the monitoring of future ground disturbance activities, as well as the treatment and disposition of any discovered tribal cultural resources.

The future environmental impacts of the proposed project would be minimal to negligible. Because the proposed project involves replacements along existing underground trunk lines, the trunk lines would continue to operate and be maintained by LADWP, consistent with existing conditions. The proposed project would also decrease the likelihood of future pipeline breakages, which would decrease the likelihood of safety hazards, service disruptions, and emergency repairs that could be associated with pipeline breakage.

### No Project/No Action Alternative

Under the no project/no action alternative, the proposed potable water pipeline replacements would not occur. As such, the potentially significant impacts identified for the proposed project in the categories of biological resources, cultural resources, noise, traffic and transportation, and tribal cultural resources would not occur. No direct, indirect, or cumulative impacts would occur.

However, in contrast to the proposed project, the no project/no action alternative would increase future potential environmental impacts. Because the pipeline segments that would be replaced under the proposed project are aging, deteriorating, and nearing the end of their service life, the no project/no action alternative could result in pipeline failures such as leaks or breakages. Pipeline breakage would disrupt potable water service for nearby residents and businesses and could also result in safety concerns near the breakage, such as hazardous roadway conditions due to flooding and unplanned interruptions or obstruction in traffic, emergency access, and property access. Additionally, in the event of a pipeline breakage, emergency repairs may be required. Emergency repairs would not be subject to the same level of environmental analysis as the proposed project, as they may be deemed exempt from CEQA. Depending on the location and extent of damage, emergency repairs could ultimately result in increased effects in the categories of biological resources, cultural resources, noise, traffic and transportation, and tribal cultural resources relative to those of the proposed project.

### Alternatives Considered but Eliminated from Detailed Analysis – New/Rerouted Pipeline Alignments Alternative

The proposed project would involve replacing segments of existing potable water trunk lines. The replaced segments would connect to portions of existing trunk lines that have been recently replaced or do not otherwise require replacement. Rather than replacing segments of existing trunk lines, the existing trunk lines could be abandoned, and new trunk lines could be constructed elsewhere in the western San Fernando Valley. Alternatively, the segments proposed for replacement could be re-routed to other roadways and then routed back to the existing trunk lines. While alternative alignments would decrease or eliminate impacts of the proposed project along De Soto Avenue, Roscoe Boulevard, and Victory Boulevard, the impacts of the proposed project would simply be relocated elsewhere in the western San Fernando Valley. Due to the generally built-out nature of the San Fernando Valley and the presence of a variety of sensitive receptors throughout the area (residences, schools, hospitals, etc.), it is unlikely that an alternate alignment would be situated far enough from sensitive receptors to substantially lessen the air quality and noise impacts of the proposed project during construction. Similarly, alternative alignments would not necessarily reduce impacts to transportation and traffic, as such impacts could merely be relocated to other intersections within the City.

Additionally, construction impacts may increase if alternate pipeline alignments were selected. For example, construction of entirely new trunk lines would result in increased construction duration and ground disturbance. Rerouted trunk lines would require additional pipeline connections, utility relocations, and potentially longer alignments, resulting in increased construction duration and intensity. As such, alternate pipeline alignments would likely result in increased direct, indirect, and cumulative environmental impacts during construction, relative to the proposed project.

As with the proposed project, future environmental impacts associated with alternative pipeline alignments would be minimal to negligible. The replacement trunk lines would continue to operate and be maintained by LADWP, in a manner similar to existing conditions. Similar to the proposed project, addressing the aging and deteriorating nature of the existing trunk lines would also address and reduce the potential for future pipeline breakages, which would decrease the likelihood of safety hazards, service disruptions, and emergency repairs that could be associated with pipeline breakage.

### Selection of the Proposed Project Alternative

The proposed project alternative was selected because construction disturbances would be reduced relative to the new/rerouted pipeline alignments alternative, and the potential for increased environmental effects in the future would be reduced relative to the no project/no action alternative. For the reasons described above, the proposed project was determined to be the environmentally preferable alternative.

#### **b. Endangered Species Act (ESA)**

The proposed project would not have an impact on federally listed plant or wildlife species or their critical habitat. No special-status plant or wildlife species were observed during the general biological surveys conducted for the proposed project. Additionally, based on the occurrence of limited, isolated native vegetation within the project site, lack of suitable soils, routine disturbance and development, as well as the extent of ornamental landscaping that appears to be regularly maintained throughout the project area, no special-status plants or wildlife species were determined to have a moderate or high potential to occur within the proposed project site. ("Project site" refers to the proposed trunk line alignment and potential staging area).

Although the project site does not provide suitable habitat to support special-status plant or wildlife species, the coastal scrub habitat located approximately 30 feet north of the potential staging area provides potentially suitable habitat to support the federally listed as threatened and state species of special concern coastal California gnatcatcher (*Polioptila californica californica*) and state listed as rare and California Rare Plant Rank (CRPR) 1B.2 Santa Susana tarplant (*Deinandra minthornii*). Thus, coastal California gnatcatcher and Santa Susana tarplant are addressed further in the Biological Technical Report (Appendix B). The findings shown in the Biological Technical Report are summarized below.

A protocol-level presence/absence focused survey for coastal California gnatcatcher was conducted between April 25 and June 18, 2018, within the general staging area location (i.e., the potential staging area and a 500-foot buffer), with negative findings for this species. As such, impacts to coastal California gnatcatcher are not anticipated to occur. Furthermore, activities proposed within the potential staging area would be limited to material storage and vehicle parking, and access to the potential staging area is provided via existing paved ingress/egress roads in the area. Thus, potential indirect impacts to coastal California gnatcatcher based on the use of the potential staging area are not anticipated to occur. Potential indirect impacts to Santa Susana tarplant, if present, are anticipated to be negligible, given that indirect impacts (if any) would be limited to minor occurrences of fugitive dust, which would be controlled and minimized through best management practices such as watering active work areas.

No United States Fish and Wildlife Service (USFWS)-designated critical habitat for listed wildlife or plant species exists within the project site (USFWS 2017). The closest USFWS-designated critical habitat for wildlife is for coastal California gnatcatcher and is located approximately 0.3 miles northwest of the potential staging area (see Figure 3 in Appendix B). This critical habitat is within the western Los Angeles and Ventura Counties Unit (Unit 13), which includes suitable habitat for this species and provides a linkage to known and otherwise isolated populations of coastal California gnatcatchers (71 FR 72010–72213). The area of Unit 13 connects the San Gabriel and Santa Susana Mountains and serves as an essential linkage between two isolated populations of gnatcatchers in the Moorpark area in Ventura County and the pairs documented in the foothills of the San Gabriel Mountains in Los Angeles County (71 FR 72010–72213).

In conclusion, impacts to federally listed species or their critical habitat would not occur as a result of the proposed project. Additional information, including results of the database queries, analysis of species

queried, species information, and a discussion of project impacts is discussed in greater detail within the Biological Resources Technical Report for the project (Appendix B).

### **c. Environmental Justice**

The project involves replacement and repair of aging and deteriorating potable water pipelines in the western San Fernando Valley area within the City of Los Angeles. The project site is not located on or near tribal lands as shown on U.S. Census Bureau maps (U.S. Census Bureau 2010). The following Census Tracts are located within 0.25 miles of the potential staging area and project alignment: 113101 (Block Groups 1 and 2), 113234 (Block Group 2), 113303 (Block Group 2), 113321 (Block Group 1), 113421 (Block Groups 1, 2, and 3), 113422 (Block Groups 1 and 2), 134103 (Block Group 2), 134201 (Block Groups 1 and 3), 134903 (Block Group 1), 134904 (Block Group 1), and 134905 (Block Group 1). The median household income for these census block groups ranges from approximately \$40,205 to \$118,618 (U.S. Census Bureau 2016). The project alignment extends through the greater communities of Chatsworth, Canoga Park, and Winnetka, which have median household incomes of approximately \$84,456, \$51,601, and \$62,535, respectively. Average household size in these communities are 2.6 people, 3.0 people, and 3.1 people, respectively (Los Angeles Times 2017). The U.S. Census Bureau identifies weighted average poverty thresholds by size of family in its *Current Population Report*. The threshold identified for families of two people is \$15,569; \$19,105 for families of three people; and \$24,563 for families of four people (U.S. Census Bureau 2017). The income levels reported in Chatsworth, Canoga Park, and Winnetka, as well as in the specific census block groups through which the project alignment extends, are above these thresholds.

The census block groups through which the project alignment extends have minority populations ranging from 15% to 78% (U.S. Census Bureau 2016). The communities of Chatsworth, Canoga Park, and Winnetka have minority populations (i.e., nonwhite populations) of approximately 34%, 69%, and 64%, respectively (Los Angeles Times 2017). As demonstrated, the project alignment extends through a variety of communities and neighborhoods, some of which have predominantly minority populations and others of which do not have predominantly minority populations. The project would not have disproportionate effects in the areas with predominately minority populations or with lower incomes. Rather, the effects of the project would be relatively uniform along the alignment. As demonstrated in the analysis of the project in the IS/MND, the project would result in temporary, short-term construction effects that may cause nuisances at the land uses adjacent to the project alignment, which include residences, businesses, and schools. However, after implementation of the mitigation measures that have been identified in the IS/MND, construction is not anticipated to cause significant, adverse effects. Further, construction activities would be primarily limited to roadway rights-of-way. Additionally, while the project would be associated with temporary construction effects and nuisances, the long-term purpose of the project is to update aging, deteriorating potable water infrastructure. As such, the project would ultimately increase the safety and reliability of potable water distribution in the project area, resulting in a long-term benefit to the populations that reside and work in the project area. LADWP would notify project area residents of the project and of construction activities through issuance of a Notice of Intent to Adopt a Mitigated Negative Declaration for the proposed project and would also notify area residents of construction activities. For these reasons, the project would not disproportionately affect minority or low-income populations, nor would it have a particular impact on these populations.

### **d. Fish and Wildlife Coordination Act (FWCA)**

The project would not affect waters of a stream or other water bodies by impounding, diverting, deepening a channel, or otherwise controlling or modifying flow for any purpose. Although the proposed work would cross underneath two potentially jurisdictional concrete-lined drainages (Browns Canyon Wash and Kelvin Channel) in three locations along the project alignment, these channels are not

anticipated to be impacted by the proposed project because the proposed replacement pipeline would be jacked underneath these channels, resulting in no physical impacts to the channels. Additionally, these channels occur within urban areas, which provide limited fish and wildlife resources. Browns Canyon Wash is adjacent to a City sidewalk and is well delineated by fencing. Kelvin Channel is subterranean where the project crosses the channel. Construction vehicle access and the proposed project activities would occur within paved City streets, minimizing potential indirect impacts due to chemical run-off and fugitive dust. Additionally, pipe jacking would occur within these areas, thereby eliminating potential indirect effects due to altered hydrology. As such, direct and indirect effects to these channels or fish and wildlife resources are not anticipated to occur, and the project would not require compliance with FWCA.

#### **e. Migratory Bird Treaty Act**

According to the USFWS IPaC Trust Resource Report (USFWS 2017), 33 species of migratory birds could occur within the general project area. An official USFWS IPaC list of all the “birds of conservation concern” that could occur where the project is located is provided in Section 6.4.4 (page 36) of the Biological Technical Report (Appendix B). Wrentit was the only migratory species provided within the USFWS IPaC Trust Resource Report that was detected within the action area during the June and October 2017 surveys. (The “action area” is defined as the proposed pipeline alignment, the potential staging area, and a 500-foot buffer surrounding the alignment and staging area.) Many of the bird species listed within the USFWS IPaC Trust Report are unlikely to occur within the action area given the disturbed nature of the area (which is dominated by commercial and residential development) and lack of suitable habitat (i.e., coastal shoreline habitat, wetland and riparian areas, contiguous open habitat, and/or forested areas). Other migratory bird species that could occur within the action area include Allen’s hummingbird (*Selasphorus sasin*; USFWS Bird of Conservation Concern (BCC)), Lawrence’s goldfinch (*Spinus lawrencei*; USFWS BCC), rufous hummingbird (*Selasphorus rufus*; USFWS BCC), song sparrow (*Melospiza melodia maxillaris*; USFWS BCC/CDFW Species of Special Concern (SSC)), spotted towhee (*Pipilo maculatus clementae*; USFWS BCC/CDFW SSC), and wrentit (*Chamaea fasciata*). Given the urbanization surrounding the proposed alignment, these migratory bird species are unlikely to occur within the proposed trunk line alignment action area. However, these species, if occurring on-site, could occur within and around the potential staging area location.

While the majority of the action area associated with the proposed alignment provides limited habitat for nesting birds and raptors, the vegetation within the action area associated with the potential staging area may provide suitable habitat to support breeding and foraging habitat for birds and raptors protected under the Migratory Bird Treaty Act (MBTA) and/or California Fish and Game Code. As such, project activities associated with the potential staging area occurring during the general nesting bird-breeding season (February 15 through August 31) could disrupt breeding activity. Breeding birds may be directly affected (i.e., impacts from staging area use) and/or indirectly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. These temporary direct and/or indirect effects to nesting birds protected under the MBTA would be potentially adverse. As a result, mitigation measure MM-BIO-1 is set forth in the IS/MND to reduce potential direct and/or indirect impacts to nesting birds to less than significant levels. See MM-BIO-1 in the attached IS/MND and Section 8 (page 49) of the Biological Technical Report (Appendix B).

#### **f. Protection of Wetlands**

The project area was evaluated for the potential to support jurisdictional waters regulated under the federal Clean Water Act, California Fish and Game Code, and Porter-Cologne Water Quality Control Act. Results are detailed in Biological Technical Report (Appendix B). As documented in the Biological Technical Report, no jurisdictional wetlands occur within the project area. Additionally, jurisdictional non-wetland waters within the project area would not be directly or indirectly affected by the proposed



project activities. The work area crosses two potentially jurisdictional concrete-lined drainages (Browns Canyon Wash and Kelvin Channel) in three locations along the project alignment. However, pipeline jacking would occur within portions of the project alignment proposed to cross under Browns Canyon Wash and Kelvin Channel; thus, these channels are not anticipated to be impacted by the proposed project. Browns Canyon Wash is adjacent to a City sidewalk and well delineated by fencing, and Kelvin Channel is subterranean where the project crosses the channel. Construction activities would occur within paved City streets, minimizing potential indirect impacts due to chemical run-off and fugitive dust. Additionally, pipeline jacking would occur within these areas, which would eliminate the potential for indirect impacts due to altered hydrology. As such, direct and indirect effects to these channels are not anticipated to occur, and the project is not anticipated to result in direct or indirect effects to any jurisdictional wetlands or waters of the U.S.

### **References for the Environmental Package**

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## **APPENDIX B**

### **Air Quality and Greenhouse Gas Modeling Data**

Summer



Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Solvang WWTP  
Santa Barbara-South of Santa Ynez Range County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	20.00	1000sqft	2.35	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	37
Climate Zone	4			Operational Year	2026
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Construction area approximately 2.35 acres.
- Construction Phase - Construction of the proposed Project is expected to begin in October 2024 and would be completed by October 2026.
- Demolition -
- Grading -
- Vehicle Trips - Assumed 1 vehicle per day for maintenance.
- Water And Wastewater - Project would have a 1.5 MG capacity.
- Construction Off-road Equipment Mitigation - Fugitive dust requirements per SBCAPCD Rule 345.
- Vehicle Emission Factors -
- Vehicle Emission Factors -
- Vehicle Emission Factors -
- Fleet Mix -

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	220.00	434.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	6.00	43.00
tblConstructionPhase	NumDays	10.00	22.00
tblGrading	MaterialExported	0.00	5,500.00
tblGrading	MaterialImported	0.00	2,500.00
tblLandUse	LotAcreage	0.46	2.35
tblVehicleTrips	ST_TR	1.99	0.05
tblVehicleTrips	SU_TR	5.00	0.05
tblVehicleTrips	WD_TR	4.96	0.05
tblWater	IndoorWaterUseRate	4,625,000.00	1,500,000.00

**2.0 Emissions Summary**

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## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	1.4766	17.4376	13.8228	0.0349	7.5782	0.6344	8.1790	3.5565	0.5926	4.1103	0.0000	3,616.170 6	3,616.170 6	0.7622	0.2531	3,710.660 8
2025	1.5111	12.1687	14.1871	0.0260	0.0683	0.4710	0.5393	0.0185	0.4508	0.4693	0.0000	2,388.644 6	2,388.644 6	0.4239	9.7100e- 003	2,402.134 9
2026	21.2433	12.1648	14.1760	0.0259	0.0947	0.4710	0.5393	0.0251	0.4508	0.4693	0.0000	2,386.590 7	2,386.590 7	0.5441	9.4900e- 003	2,400.016 1
Maximum	21.2433	17.4376	14.1871	0.0349	7.5782	0.6344	8.1790	3.5565	0.5926	4.1103	0.0000	3,616.170 6	3,616.170 6	0.7622	0.2531	3,710.660 8

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	1.4766	17.4376	13.8228	0.0349	3.6676	0.6344	4.2684	1.6706	0.5926	2.2244	0.0000	3,616.170 6	3,616.170 6	0.7622	0.2531	3,710.660 8
2025	1.5111	12.1687	14.1871	0.0260	0.0683	0.4710	0.5393	0.0185	0.4508	0.4693	0.0000	2,388.644 6	2,388.644 6	0.4239	9.7100e- 003	2,402.134 9
2026	21.2433	12.1648	14.1760	0.0259	0.0947	0.4710	0.5393	0.0251	0.4508	0.4693	0.0000	2,386.590 7	2,386.590 7	0.5441	9.4900e- 003	2,400.016 1
Maximum	21.2433	17.4376	14.1871	0.0349	3.6676	0.6344	4.2684	1.6706	0.5926	2.2244	0.0000	3,616.170 6	3,616.170 6	0.7622	0.2531	3,710.660 8

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	50.52	0.00	42.24	52.38	0.00	37.35	0.00	0.00	0.00	0.00	0.00	0.00

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5552	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
Energy	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
Mobile	2.4400e-003	2.7000e-003	0.0193	4.0000e-005	4.5000e-003	3.0000e-005	4.5400e-003	1.2000e-003	3.0000e-005	1.2300e-003		4.1743	4.1743	2.8000e-004	2.1000e-004	4.2433
<b>Total</b>	<b>0.5731</b>	<b>0.1434</b>	<b>0.1395</b>	<b>8.8000e-004</b>	<b>4.5000e-003</b>	<b>0.0107</b>	<b>0.0152</b>	<b>1.2000e-003</b>	<b>0.0107</b>	<b>0.0119</b>		<b>172.9458</b>	<b>172.9458</b>	<b>3.5200e-003</b>	<b>3.3000e-003</b>	<b>174.0180</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5552	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
Energy	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
Mobile	2.4400e-003	2.7000e-003	0.0193	4.0000e-005	4.5000e-003	3.0000e-005	4.5400e-003	1.2000e-003	3.0000e-005	1.2300e-003		4.1743	4.1743	2.8000e-004	2.1000e-004	4.2433
<b>Total</b>	<b>0.5731</b>	<b>0.1434</b>	<b>0.1395</b>	<b>8.8000e-004</b>	<b>4.5000e-003</b>	<b>0.0107</b>	<b>0.0152</b>	<b>1.2000e-003</b>	<b>0.0107</b>	<b>0.0119</b>		<b>172.9458</b>	<b>172.9458</b>	<b>3.5200e-003</b>	<b>3.3000e-003</b>	<b>174.0180</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2024	10/31/2024	5	23	
2	Grading	Grading	11/1/2024	12/31/2024	5	43	
3	Building Construction	Building Construction	1/1/2025	8/31/2026	5	434	
4	Paving	Paving	9/1/2026	9/30/2026	5	22	
5	Architectural Coating	Architectural Coating	10/1/2026	10/30/2026	5	22	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 43****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 30,000; Non-Residential Outdoor: 10,000; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	55.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	8.00	3.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Demolition - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5216	0.0000	0.5216	0.0790	0.0000	0.0790			0.0000			0.0000
Off-Road	1.4397	13.8867	13.4879	0.0241		0.6311	0.6311		0.5895	0.5895		2,324.945 9	2,324.945 9	0.5884		2,339.656 2
<b>Total</b>	<b>1.4397</b>	<b>13.8867</b>	<b>13.4879</b>	<b>0.0241</b>	<b>0.5216</b>	<b>0.6311</b>	<b>1.1527</b>	<b>0.0790</b>	<b>0.5895</b>	<b>0.6684</b>		<b>2,324.945 9</b>	<b>2,324.945 9</b>	<b>0.5884</b>		<b>2,339.656 2</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0200e-003	0.3707	0.1016	1.4200e-003	0.0416	2.9100e-003	0.0446	0.0114	2.7800e-003	0.0142		161.2663	161.2663	0.0118	0.0259	169.2712
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0309	0.0192	0.2332	6.6000e-004	0.0821	3.8000e-004	0.0825	0.0218	3.5000e-004	0.0221		67.9245	67.9245	2.2400e-003	2.0200e-003	68.5830
<b>Total</b>	<b>0.0369</b>	<b>0.3898</b>	<b>0.3349</b>	<b>2.0800e-003</b>	<b>0.1237</b>	<b>3.2900e-003</b>	<b>0.1270</b>	<b>0.0332</b>	<b>3.1300e-003</b>	<b>0.0363</b>		<b>229.1909</b>	<b>229.1909</b>	<b>0.0141</b>	<b>0.0279</b>	<b>237.8542</b>



## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Demolition - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2347	0.0000	0.2347	0.0355	0.0000	0.0355			0.0000			0.0000
Off-Road	1.4397	13.8867	13.4879	0.0241		0.6311	0.6311		0.5895	0.5895	0.0000	2,324.945 9	2,324.945 9	0.5884		2,339.656 2
<b>Total</b>	<b>1.4397</b>	<b>13.8867</b>	<b>13.4879</b>	<b>0.0241</b>	<b>0.2347</b>	<b>0.6311</b>	<b>0.8658</b>	<b>0.0355</b>	<b>0.5895</b>	<b>0.6250</b>	<b>0.0000</b>	<b>2,324.945 9</b>	<b>2,324.945 9</b>	<b>0.5884</b>		<b>2,339.656 2</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.0200e-003	0.3707	0.1016	1.4200e-003	0.0416	2.9100e-003	0.0446	0.0114	2.7800e-003	0.0142		161.2663	161.2663	0.0118	0.0259	169.2712
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0309	0.0192	0.2332	6.6000e-004	0.0821	3.8000e-004	0.0825	0.0218	3.5000e-004	0.0221		67.9245	67.9245	2.2400e-003	2.0200e-003	68.5830
<b>Total</b>	<b>0.0369</b>	<b>0.3898</b>	<b>0.3349</b>	<b>2.0800e-003</b>	<b>0.1237</b>	<b>3.2900e-003</b>	<b>0.1270</b>	<b>0.0332</b>	<b>3.1300e-003</b>	<b>0.0363</b>		<b>229.1909</b>	<b>229.1909</b>	<b>0.0141</b>	<b>0.0279</b>	<b>237.8542</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 Grading - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1100	0.0000	7.1100	3.4289	0.0000	3.4289			0.0000			0.0000
Off-Road	1.3015	13.8178	8.6998	0.0206		0.5722	0.5722		0.5265	0.5265		1,995.580 3	1,995.580 3	0.6454		2,011.715 5
<b>Total</b>	<b>1.3015</b>	<b>13.8178</b>	<b>8.6998</b>	<b>0.0206</b>	<b>7.1100</b>	<b>0.5722</b>	<b>7.6823</b>	<b>3.4289</b>	<b>0.5265</b>	<b>3.9554</b>		<b>1,995.580 3</b>	<b>1,995.580 3</b>	<b>0.6454</b>		<b>2,011.715 5</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0585	3.6050	0.9882	0.0138	0.4050	0.0283	0.4332	0.1108	0.0270	0.1379		1,568.340 7	1,568.340 7	0.1151	0.2516	1,646.189 1
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0238	0.0147	0.1794	5.1000e-004	0.0632	2.9000e-004	0.0635	0.0168	2.7000e-004	0.0170		52.2496	52.2496	1.7300e-003	1.5600e-003	52.7562
<b>Total</b>	<b>0.0823</b>	<b>3.6197</b>	<b>1.1676</b>	<b>0.0143</b>	<b>0.4681</b>	<b>0.0286</b>	<b>0.4967</b>	<b>0.1276</b>	<b>0.0273</b>	<b>0.1549</b>		<b>1,620.590 4</b>	<b>1,620.590 4</b>	<b>0.1168</b>	<b>0.2531</b>	<b>1,698.945 2</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 Grading - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1995	0.0000	3.1995	1.5430	0.0000	1.5430			0.0000			0.0000
Off-Road	1.3015	13.8178	8.6998	0.0206		0.5722	0.5722		0.5265	0.5265	0.0000	1,995.580 3	1,995.580 3	0.6454		2,011.715 5
<b>Total</b>	<b>1.3015</b>	<b>13.8178</b>	<b>8.6998</b>	<b>0.0206</b>	<b>3.1995</b>	<b>0.5722</b>	<b>3.7718</b>	<b>1.5430</b>	<b>0.5265</b>	<b>2.0695</b>	<b>0.0000</b>	<b>1,995.580 3</b>	<b>1,995.580 3</b>	<b>0.6454</b>		<b>2,011.715 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0585	3.6050	0.9882	0.0138	0.4050	0.0283	0.4332	0.1108	0.0270	0.1379		1,568.340 7	1,568.340 7	0.1151	0.2516	1,646.189 1
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0238	0.0147	0.1794	5.1000e-004	0.0632	2.9000e-004	0.0635	0.0168	2.7000e-004	0.0170		52.2496	52.2496	1.7300e-003	1.5600e-003	52.7562
<b>Total</b>	<b>0.0823</b>	<b>3.6197</b>	<b>1.1676</b>	<b>0.0143</b>	<b>0.4681</b>	<b>0.0286</b>	<b>0.4967</b>	<b>0.1276</b>	<b>0.0273</b>	<b>0.1549</b>		<b>1,620.590 4</b>	<b>1,620.590 4</b>	<b>0.1168</b>	<b>0.2531</b>	<b>1,698.945 2</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2025****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498		2,289.8898	2,289.8898	0.4200		2,300.3887
<b>Total</b>	<b>1.4897</b>	<b>12.0233</b>	<b>14.0072</b>	<b>0.0250</b>		<b>0.4700</b>	<b>0.4700</b>		<b>0.4498</b>	<b>0.4498</b>		<b>2,289.8898</b>	<b>2,289.8898</b>	<b>0.4200</b>		<b>2,300.3887</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5100e-003	0.1348	0.0459	5.3000e-004	0.0178	8.0000e-004	0.0186	5.1200e-003	7.7000e-004	5.8800e-003		57.9120	57.9120	2.6700e-003	8.5500e-003	60.5261
Worker	0.0179	0.0106	0.1340	3.9000e-004	0.0505	2.2000e-004	0.0508	0.0134	2.1000e-004	0.0136		40.8427	40.8427	1.2600e-003	1.1600e-003	41.2202
<b>Total</b>	<b>0.0214</b>	<b>0.1454</b>	<b>0.1799</b>	<b>9.2000e-004</b>	<b>0.0683</b>	<b>1.0200e-003</b>	<b>0.0693</b>	<b>0.0185</b>	<b>9.8000e-004</b>	<b>0.0195</b>		<b>98.7547</b>	<b>98.7547</b>	<b>3.9300e-003</b>	<b>9.7100e-003</b>	<b>101.7462</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2025****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498	0.0000	2,289.8898	2,289.8898	0.4200		2,300.3887
<b>Total</b>	<b>1.4897</b>	<b>12.0233</b>	<b>14.0072</b>	<b>0.0250</b>		<b>0.4700</b>	<b>0.4700</b>		<b>0.4498</b>	<b>0.4498</b>	<b>0.0000</b>	<b>2,289.8898</b>	<b>2,289.8898</b>	<b>0.4200</b>		<b>2,300.3887</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5100e-003	0.1348	0.0459	5.3000e-004	0.0178	8.0000e-004	0.0186	5.1200e-003	7.7000e-004	5.8800e-003		57.9120	57.9120	2.6700e-003	8.5500e-003	60.5261
Worker	0.0179	0.0106	0.1340	3.9000e-004	0.0505	2.2000e-004	0.0508	0.0134	2.1000e-004	0.0136		40.8427	40.8427	1.2600e-003	1.1600e-003	41.2202
<b>Total</b>	<b>0.0214</b>	<b>0.1454</b>	<b>0.1799</b>	<b>9.2000e-004</b>	<b>0.0683</b>	<b>1.0200e-003</b>	<b>0.0693</b>	<b>0.0185</b>	<b>9.8000e-004</b>	<b>0.0195</b>		<b>98.7547</b>	<b>98.7547</b>	<b>3.9300e-003</b>	<b>9.7100e-003</b>	<b>101.7462</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498		2,289.8898	2,289.8898	0.4200		2,300.3887
<b>Total</b>	<b>1.4897</b>	<b>12.0233</b>	<b>14.0072</b>	<b>0.0250</b>		<b>0.4700</b>	<b>0.4700</b>		<b>0.4498</b>	<b>0.4498</b>		<b>2,289.8898</b>	<b>2,289.8898</b>	<b>0.4200</b>		<b>2,300.3887</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3700e-003	0.1319	0.0450	5.2000e-004	0.0178	7.8000e-004	0.0186	5.1200e-003	7.5000e-004	5.8600e-003		56.8533	56.8533	2.7600e-003	8.4000e-003	59.4266
Worker	0.0168	9.5600e-003	0.1238	3.8000e-004	0.0505	2.1000e-004	0.0507	0.0134	1.9000e-004	0.0136		39.8476	39.8476	1.1400e-003	1.0900e-003	40.2008
<b>Total</b>	<b>0.0202</b>	<b>0.1415</b>	<b>0.1687</b>	<b>9.0000e-004</b>	<b>0.0683</b>	<b>9.9000e-004</b>	<b>0.0693</b>	<b>0.0185</b>	<b>9.4000e-004</b>	<b>0.0195</b>		<b>96.7009</b>	<b>96.7009</b>	<b>3.9000e-003</b>	<b>9.4900e-003</b>	<b>99.6274</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.4 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498	0.0000	2,289.8898	2,289.8898	0.4200		2,300.3887
<b>Total</b>	<b>1.4897</b>	<b>12.0233</b>	<b>14.0072</b>	<b>0.0250</b>		<b>0.4700</b>	<b>0.4700</b>		<b>0.4498</b>	<b>0.4498</b>	<b>0.0000</b>	<b>2,289.8898</b>	<b>2,289.8898</b>	<b>0.4200</b>		<b>2,300.3887</b>

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3700e-003	0.1319	0.0450	5.2000e-004	0.0178	7.8000e-004	0.0186	5.1200e-003	7.5000e-004	5.8600e-003		56.8533	56.8533	2.7600e-003	8.4000e-003	59.4266
Worker	0.0168	9.5600e-003	0.1238	3.8000e-004	0.0505	2.1000e-004	0.0507	0.0134	1.9000e-004	0.0136		39.8476	39.8476	1.1400e-003	1.0900e-003	40.2008
<b>Total</b>	<b>0.0202</b>	<b>0.1415</b>	<b>0.1687</b>	<b>9.0000e-004</b>	<b>0.0683</b>	<b>9.9000e-004</b>	<b>0.0693</b>	<b>0.0185</b>	<b>9.4000e-004</b>	<b>0.0195</b>		<b>96.7009</b>	<b>96.7009</b>	<b>3.9000e-003</b>	<b>9.4900e-003</b>	<b>99.6274</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7854	7.4371	11.6737	0.0179		0.3503	0.3503		0.3234	0.3234		1,710.0067	1,710.0067	0.5420		1,723.5556
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7854</b>	<b>7.4371</b>	<b>11.6737</b>	<b>0.0179</b>		<b>0.3503</b>	<b>0.3503</b>		<b>0.3234</b>	<b>0.3234</b>		<b>1,710.0067</b>	<b>1,710.0067</b>	<b>0.5420</b>		<b>1,723.5556</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0316	0.0179	0.2320	7.1000e-004	0.0947	3.9000e-004	0.0951	0.0251	3.6000e-004	0.0255		74.7142	74.7142	2.1400e-003	2.0400e-003	75.3764
<b>Total</b>	<b>0.0316</b>	<b>0.0179</b>	<b>0.2320</b>	<b>7.1000e-004</b>	<b>0.0947</b>	<b>3.9000e-004</b>	<b>0.0951</b>	<b>0.0251</b>	<b>3.6000e-004</b>	<b>0.0255</b>		<b>74.7142</b>	<b>74.7142</b>	<b>2.1400e-003</b>	<b>2.0400e-003</b>	<b>75.3764</b>



## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2026****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7854	7.4371	11.6737	0.0179		0.3503	0.3503		0.3234	0.3234	0.0000	1,710.0067	1,710.0067	0.5420		1,723.5556
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7854</b>	<b>7.4371</b>	<b>11.6737</b>	<b>0.0179</b>		<b>0.3503</b>	<b>0.3503</b>		<b>0.3234</b>	<b>0.3234</b>	<b>0.0000</b>	<b>1,710.0067</b>	<b>1,710.0067</b>	<b>0.5420</b>		<b>1,723.5556</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0316	0.0179	0.2320	7.1000e-004	0.0947	3.9000e-004	0.0951	0.0251	3.6000e-004	0.0255		74.7142	74.7142	2.1400e-003	2.0400e-003	75.3764
<b>Total</b>	<b>0.0316</b>	<b>0.0179</b>	<b>0.2320</b>	<b>7.1000e-004</b>	<b>0.0947</b>	<b>3.9000e-004</b>	<b>0.0951</b>	<b>0.0251</b>	<b>3.6000e-004</b>	<b>0.0255</b>		<b>74.7142</b>	<b>74.7142</b>	<b>2.1400e-003</b>	<b>2.0400e-003</b>	<b>75.3764</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	21.0682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
<b>Total</b>	<b>21.2390</b>	<b>1.1455</b>	<b>1.8091</b>	<b>2.9700e-003</b>		<b>0.0515</b>	<b>0.0515</b>		<b>0.0515</b>	<b>0.0515</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0154</b>		<b>281.8319</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2100e-003	2.3900e-003	0.0309	9.0000e-005	0.0126	5.0000e-005	0.0127	3.3500e-003	5.0000e-005	3.4000e-003		9.9619	9.9619	2.9000e-004	2.7000e-004	10.0502
<b>Total</b>	<b>4.2100e-003</b>	<b>2.3900e-003</b>	<b>0.0309</b>	<b>9.0000e-005</b>	<b>0.0126</b>	<b>5.0000e-005</b>	<b>0.0127</b>	<b>3.3500e-003</b>	<b>5.0000e-005</b>	<b>3.4000e-003</b>		<b>9.9619</b>	<b>9.9619</b>	<b>2.9000e-004</b>	<b>2.7000e-004</b>	<b>10.0502</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 2026****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	21.0682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
<b>Total</b>	<b>21.2390</b>	<b>1.1455</b>	<b>1.8091</b>	<b>2.9700e-003</b>		<b>0.0515</b>	<b>0.0515</b>		<b>0.0515</b>	<b>0.0515</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0154</b>		<b>281.8319</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2100e-003	2.3900e-003	0.0309	9.0000e-005	0.0126	5.0000e-005	0.0127	3.3500e-003	5.0000e-005	3.4000e-003		9.9619	9.9619	2.9000e-004	2.7000e-004	10.0502
<b>Total</b>	<b>4.2100e-003</b>	<b>2.3900e-003</b>	<b>0.0309</b>	<b>9.0000e-005</b>	<b>0.0126</b>	<b>5.0000e-005</b>	<b>0.0127</b>	<b>3.3500e-003</b>	<b>5.0000e-005</b>	<b>3.4000e-003</b>		<b>9.9619</b>	<b>9.9619</b>	<b>2.9000e-004</b>	<b>2.7000e-004</b>	<b>10.0502</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.4400e-003	2.7000e-003	0.0193	4.0000e-005	4.5000e-003	3.0000e-005	4.5400e-003	1.2000e-003	3.0000e-005	1.2300e-003		4.1743	4.1743	2.8000e-004	2.1000e-004	4.2433
Unmitigated	2.4400e-003	2.7000e-003	0.0193	4.0000e-005	4.5000e-003	3.0000e-005	4.5400e-003	1.2000e-003	3.0000e-005	1.2300e-003		4.1743	4.1743	2.8000e-004	2.1000e-004	4.2433

## 4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1.00	1.00	1.00	2,128	2,128
Total	1.00	1.00	1.00	2,128	2,128

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	6.60	5.50	6.40	59.00	28.00	13.00	92	5	3

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.503113	0.055239	0.207102	0.145750	0.026695	0.006629	0.011141	0.006248	0.000953	0.000569	0.029502	0.003405	0.003654

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
NaturalGas Unmitigated	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	1434.52	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
<b>Total</b>		<b>0.0155</b>	<b>0.1406</b>	<b>0.1181</b>	<b>8.4000e-004</b>		<b>0.0107</b>	<b>0.0107</b>		<b>0.0107</b>	<b>0.0107</b>		<b>168.7671</b>	<b>168.7671</b>	<b>3.2300e-003</b>	<b>3.0900e-003</b>	<b>169.7700</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	1.43452	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
<b>Total</b>		<b>0.0155</b>	<b>0.1406</b>	<b>0.1181</b>	<b>8.4000e-004</b>		<b>0.0107</b>	<b>0.0107</b>		<b>0.0107</b>	<b>0.0107</b>		<b>168.7671</b>	<b>168.7671</b>	<b>3.2300e-003</b>	<b>3.0900e-003</b>	<b>169.7700</b>

## 6.0 Area Detail

## 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5552	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
Unmitigated	0.5552	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1270					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4280					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9000e-004	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
<b>Total</b>	<b>0.5552</b>	<b>2.0000e-005</b>	<b>2.0400e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>4.3800e-003</b>	<b>4.3800e-003</b>	<b>1.0000e-005</b>		<b>4.6600e-003</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1270					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4280					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9000e-004	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
<b>Total</b>	<b>0.5552</b>	<b>2.0000e-005</b>	<b>2.0400e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>4.3800e-003</b>	<b>4.3800e-003</b>	<b>1.0000e-005</b>		<b>4.6600e-003</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**



Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

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8.1 Mitigation Measures Waste

9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

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Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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Winter

Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Solvang WWTP  
Santa Barbara-South of Santa Ynez Range County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	20.00	1000sqft	2.35	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	37
Climate Zone	4			Operational Year	2026
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Construction area approximately 2.35 acres.
- Construction Phase - Construction of the proposed Project is expected to begin in October 2024 and would be completed by October 2026.
- Demolition -
- Grading -
- Vehicle Trips - Assumed 1 vehicle per day for maintenance.
- Water And Wastewater - Project would have a 1.5 MG capacity.
- Construction Off-road Equipment Mitigation - Fugitive dust requirements per SBCAPCD Rule 345.
- Vehicle Emission Factors -
- Vehicle Emission Factors -
- Vehicle Emission Factors -
- Fleet Mix -

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	220.00	434.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	6.00	43.00
tblConstructionPhase	NumDays	10.00	22.00
tblGrading	MaterialExported	0.00	5,500.00
tblGrading	MaterialImported	0.00	2,500.00
tblLandUse	LotAcreage	0.46	2.35
tblVehicleTrips	ST_TR	1.99	0.05
tblVehicleTrips	SU_TR	5.00	0.05
tblVehicleTrips	WD_TR	4.96	0.05
tblWater	IndoorWaterUseRate	4,625,000.00	1,500,000.00

**2.0 Emissions Summary**

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## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	1.4791	17.5422	13.8339	0.0349	7.5782	0.6344	8.1790	3.5565	0.5926	4.1103	0.0000	3,616.307 9	3,616.307 9	0.7622	0.2535	3,710.901 6
2025	1.5127	12.1745	14.1945	0.0259	0.0683	0.4710	0.5393	0.0185	0.4508	0.4693	0.0000	2,387.893 7	2,387.893 7	0.4240	9.8400e- 003	2,401.425 5
2026	21.2437	12.1703	14.1834	0.0259	0.0947	0.4710	0.5393	0.0251	0.4508	0.4693	0.0000	2,385.862 1	2,385.862 1	0.5443	9.6100e- 003	2,399.326 5
<b>Maximum</b>	<b>21.2437</b>	<b>17.5422</b>	<b>14.1945</b>	<b>0.0349</b>	<b>7.5782</b>	<b>0.6344</b>	<b>8.1790</b>	<b>3.5565</b>	<b>0.5926</b>	<b>4.1103</b>	<b>0.0000</b>	<b>3,616.307 9</b>	<b>3,616.307 9</b>	<b>0.7622</b>	<b>0.2535</b>	<b>3,710.901 6</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	1.4791	17.5422	13.8339	0.0349	3.6676	0.6344	4.2685	1.6706	0.5926	2.2244	0.0000	3,616.307 9	3,616.307 9	0.7622	0.2535	3,710.901 6
2025	1.5127	12.1745	14.1945	0.0259	0.0683	0.4710	0.5393	0.0185	0.4508	0.4693	0.0000	2,387.893 7	2,387.893 7	0.4240	9.8400e- 003	2,401.425 5
2026	21.2437	12.1703	14.1834	0.0259	0.0947	0.4710	0.5393	0.0251	0.4508	0.4693	0.0000	2,385.862 1	2,385.862 1	0.5443	9.6100e- 003	2,399.326 5
<b>Maximum</b>	<b>21.2437</b>	<b>17.5422</b>	<b>14.1945</b>	<b>0.0349</b>	<b>3.6676</b>	<b>0.6344</b>	<b>4.2685</b>	<b>1.6706</b>	<b>0.5926</b>	<b>2.2244</b>	<b>0.0000</b>	<b>3,616.307 9</b>	<b>3,616.307 9</b>	<b>0.7622</b>	<b>0.2535</b>	<b>3,710.901 6</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	50.52	0.00	42.24	52.38	0.00	37.35	0.00	0.00	0.00	0.00	0.00	0.00

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5552	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
Energy	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
Mobile	2.3900e-003	2.9200e-003	0.0212	4.0000e-005	4.5000e-003	3.0000e-005	4.5400e-003	1.2000e-003	3.0000e-005	1.2300e-003		4.1132	4.1132	3.1000e-004	2.2000e-004	4.1865
<b>Total</b>	<b>0.5730</b>	<b>0.1436</b>	<b>0.1414</b>	<b>8.8000e-004</b>	<b>4.5000e-003</b>	<b>0.0107</b>	<b>0.0152</b>	<b>1.2000e-003</b>	<b>0.0107</b>	<b>0.0119</b>		<b>172.8847</b>	<b>172.8847</b>	<b>3.5500e-003</b>	<b>3.3100e-003</b>	<b>173.9612</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5552	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
Energy	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
Mobile	2.3900e-003	2.9200e-003	0.0212	4.0000e-005	4.5000e-003	3.0000e-005	4.5400e-003	1.2000e-003	3.0000e-005	1.2300e-003		4.1132	4.1132	3.1000e-004	2.2000e-004	4.1865
<b>Total</b>	<b>0.5730</b>	<b>0.1436</b>	<b>0.1414</b>	<b>8.8000e-004</b>	<b>4.5000e-003</b>	<b>0.0107</b>	<b>0.0152</b>	<b>1.2000e-003</b>	<b>0.0107</b>	<b>0.0119</b>		<b>172.8847</b>	<b>172.8847</b>	<b>3.5500e-003</b>	<b>3.3100e-003</b>	<b>173.9612</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2024	10/31/2024	5	23	
2	Grading	Grading	11/1/2024	12/31/2024	5	43	
3	Building Construction	Building Construction	1/1/2025	8/31/2026	5	434	
4	Paving	Paving	9/1/2026	9/30/2026	5	22	
5	Architectural Coating	Architectural Coating	10/1/2026	10/30/2026	5	22	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 43****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 30,000; Non-Residential Outdoor: 10,000; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37



## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	55.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	8.00	3.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Demolition - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5216	0.0000	0.5216	0.0790	0.0000	0.0790			0.0000			0.0000
Off-Road	1.4397	13.8867	13.4879	0.0241		0.6311	0.6311		0.5895	0.5895		2,324.945 9	2,324.945 9	0.5884		2,339.656 2
<b>Total</b>	<b>1.4397</b>	<b>13.8867</b>	<b>13.4879</b>	<b>0.0241</b>	<b>0.5216</b>	<b>0.6311</b>	<b>1.1527</b>	<b>0.0790</b>	<b>0.5895</b>	<b>0.6684</b>		<b>2,324.945 9</b>	<b>2,324.945 9</b>	<b>0.5884</b>		<b>2,339.656 2</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7400e-003	0.3812	0.1026	1.4200e-003	0.0416	2.9100e-003	0.0446	0.0114	2.7900e-003	0.0142		161.3896	161.3896	0.0118	0.0259	169.4001
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0337	0.0219	0.2434	6.5000e-004	0.0821	3.8000e-004	0.0825	0.0218	3.5000e-004	0.0221		66.5441	66.5441	2.4900e-003	2.2100e-003	67.2657
<b>Total</b>	<b>0.0394</b>	<b>0.4031</b>	<b>0.3460</b>	<b>2.0700e-003</b>	<b>0.1237</b>	<b>3.2900e-003</b>	<b>0.1270</b>	<b>0.0332</b>	<b>3.1400e-003</b>	<b>0.0363</b>		<b>227.9338</b>	<b>227.9338</b>	<b>0.0143</b>	<b>0.0281</b>	<b>236.6659</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Demolition - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2347	0.0000	0.2347	0.0355	0.0000	0.0355			0.0000			0.0000
Off-Road	1.4397	13.8867	13.4879	0.0241		0.6311	0.6311		0.5895	0.5895	0.0000	2,324.945 9	2,324.945 9	0.5884		2,339.656 2
<b>Total</b>	<b>1.4397</b>	<b>13.8867</b>	<b>13.4879</b>	<b>0.0241</b>	<b>0.2347</b>	<b>0.6311</b>	<b>0.8658</b>	<b>0.0355</b>	<b>0.5895</b>	<b>0.6250</b>	<b>0.0000</b>	<b>2,324.945 9</b>	<b>2,324.945 9</b>	<b>0.5884</b>		<b>2,339.656 2</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.7400e-003	0.3812	0.1026	1.4200e-003	0.0416	2.9100e-003	0.0446	0.0114	2.7900e-003	0.0142		161.3896	161.3896	0.0118	0.0259	169.4001
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0337	0.0219	0.2434	6.5000e-004	0.0821	3.8000e-004	0.0825	0.0218	3.5000e-004	0.0221		66.5441	66.5441	2.4900e-003	2.2100e-003	67.2657
<b>Total</b>	<b>0.0394</b>	<b>0.4031</b>	<b>0.3460</b>	<b>2.0700e-003</b>	<b>0.1237</b>	<b>3.2900e-003</b>	<b>0.1270</b>	<b>0.0332</b>	<b>3.1400e-003</b>	<b>0.0363</b>		<b>227.9338</b>	<b>227.9338</b>	<b>0.0143</b>	<b>0.0281</b>	<b>236.6659</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 Grading - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1100	0.0000	7.1100	3.4289	0.0000	3.4289			0.0000			0.0000
Off-Road	1.3015	13.8178	8.6998	0.0206		0.5722	0.5722		0.5265	0.5265		1,995.580 3	1,995.580 3	0.6454		2,011.715 5
<b>Total</b>	<b>1.3015</b>	<b>13.8178</b>	<b>8.6998</b>	<b>0.0206</b>	<b>7.1100</b>	<b>0.5722</b>	<b>7.6823</b>	<b>3.4289</b>	<b>0.5265</b>	<b>3.9554</b>		<b>1,995.580 3</b>	<b>1,995.580 3</b>	<b>0.6454</b>		<b>2,011.715 5</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0558	3.7076	0.9975	0.0138	0.4050	0.0283	0.4333	0.1108	0.0271	0.1379		1,569.539 8	1,569.539 8	0.1149	0.2518	1,647.443 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0259	0.0168	0.1872	5.0000e-004	0.0632	2.9000e-004	0.0635	0.0168	2.7000e-004	0.0170		51.1878	51.1878	1.9100e-003	1.7000e-003	51.7429
<b>Total</b>	<b>0.0817</b>	<b>3.7244</b>	<b>1.1848</b>	<b>0.0143</b>	<b>0.4681</b>	<b>0.0286</b>	<b>0.4967</b>	<b>0.1276</b>	<b>0.0274</b>	<b>0.1550</b>		<b>1,620.727 6</b>	<b>1,620.727 6</b>	<b>0.1168</b>	<b>0.2535</b>	<b>1,699.186 1</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 Grading - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1995	0.0000	3.1995	1.5430	0.0000	1.5430			0.0000			0.0000
Off-Road	1.3015	13.8178	8.6998	0.0206		0.5722	0.5722		0.5265	0.5265	0.0000	1,995.580 3	1,995.580 3	0.6454		2,011.715 5
<b>Total</b>	<b>1.3015</b>	<b>13.8178</b>	<b>8.6998</b>	<b>0.0206</b>	<b>3.1995</b>	<b>0.5722</b>	<b>3.7718</b>	<b>1.5430</b>	<b>0.5265</b>	<b>2.0695</b>	<b>0.0000</b>	<b>1,995.580 3</b>	<b>1,995.580 3</b>	<b>0.6454</b>		<b>2,011.715 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0558	3.7076	0.9975	0.0138	0.4050	0.0283	0.4333	0.1108	0.0271	0.1379		1,569.539 8	1,569.539 8	0.1149	0.2518	1,647.443 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0259	0.0168	0.1872	5.0000e-004	0.0632	2.9000e-004	0.0635	0.0168	2.7000e-004	0.0170		51.1878	51.1878	1.9100e-003	1.7000e-003	51.7429
<b>Total</b>	<b>0.0817</b>	<b>3.7244</b>	<b>1.1848</b>	<b>0.0143</b>	<b>0.4681</b>	<b>0.0286</b>	<b>0.4967</b>	<b>0.1276</b>	<b>0.0274</b>	<b>0.1550</b>		<b>1,620.727 6</b>	<b>1,620.727 6</b>	<b>0.1168</b>	<b>0.2535</b>	<b>1,699.186 1</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498		2,289.8898	2,289.8898	0.4200		2,300.3887
<b>Total</b>	<b>1.4897</b>	<b>12.0233</b>	<b>14.0072</b>	<b>0.0250</b>		<b>0.4700</b>	<b>0.4700</b>		<b>0.4498</b>	<b>0.4498</b>		<b>2,289.8898</b>	<b>2,289.8898</b>	<b>0.4200</b>		<b>2,300.3887</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4400e-003	0.1391	0.0472	5.3000e-004	0.0178	8.0000e-004	0.0186	5.1200e-003	7.7000e-004	5.8900e-003		57.9891	57.9891	2.6600e-003	8.5700e-003	60.6086
Worker	0.0195	0.0121	0.1401	3.8000e-004	0.0505	2.2000e-004	0.0508	0.0134	2.1000e-004	0.0136		40.0147	40.0147	1.3900e-003	1.2700e-003	40.4283
<b>Total</b>	<b>0.0230</b>	<b>0.1512</b>	<b>0.1873</b>	<b>9.1000e-004</b>	<b>0.0683</b>	<b>1.0200e-003</b>	<b>0.0693</b>	<b>0.0185</b>	<b>9.8000e-004</b>	<b>0.0195</b>		<b>98.0039</b>	<b>98.0039</b>	<b>4.0500e-003</b>	<b>9.8400e-003</b>	<b>101.0369</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.4 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498	0.0000	2,289.8898	2,289.8898	0.4200		2,300.3887
<b>Total</b>	<b>1.4897</b>	<b>12.0233</b>	<b>14.0072</b>	<b>0.0250</b>		<b>0.4700</b>	<b>0.4700</b>		<b>0.4498</b>	<b>0.4498</b>	<b>0.0000</b>	<b>2,289.8898</b>	<b>2,289.8898</b>	<b>0.4200</b>		<b>2,300.3887</b>

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4400e-003	0.1391	0.0472	5.3000e-004	0.0178	8.0000e-004	0.0186	5.1200e-003	7.7000e-004	5.8900e-003		57.9891	57.9891	2.6600e-003	8.5700e-003	60.6086
Worker	0.0195	0.0121	0.1401	3.8000e-004	0.0505	2.2000e-004	0.0508	0.0134	2.1000e-004	0.0136		40.0147	40.0147	1.3900e-003	1.2700e-003	40.4283
<b>Total</b>	<b>0.0230</b>	<b>0.1512</b>	<b>0.1873</b>	<b>9.1000e-004</b>	<b>0.0683</b>	<b>1.0200e-003</b>	<b>0.0693</b>	<b>0.0185</b>	<b>9.8000e-004</b>	<b>0.0195</b>		<b>98.0039</b>	<b>98.0039</b>	<b>4.0500e-003</b>	<b>9.8400e-003</b>	<b>101.0369</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498		2,289.8898	2,289.8898	0.4200		2,300.3887
<b>Total</b>	<b>1.4897</b>	<b>12.0233</b>	<b>14.0072</b>	<b>0.0250</b>		<b>0.4700</b>	<b>0.4700</b>		<b>0.4498</b>	<b>0.4498</b>		<b>2,289.8898</b>	<b>2,289.8898</b>	<b>0.4200</b>		<b>2,300.3887</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-003	0.1361	0.0463	5.2000e-004	0.0178	7.8000e-004	0.0186	5.1200e-003	7.5000e-004	5.8700e-003		56.9317	56.9317	2.7500e-003	8.4200e-003	59.5102
Worker	0.0184	0.0109	0.1299	3.7000e-004	0.0505	2.1000e-004	0.0507	0.0134	1.9000e-004	0.0136		39.0406	39.0406	1.2700e-003	1.1900e-003	39.4276
<b>Total</b>	<b>0.0217</b>	<b>0.1470</b>	<b>0.1761</b>	<b>8.9000e-004</b>	<b>0.0683</b>	<b>9.9000e-004</b>	<b>0.0693</b>	<b>0.0185</b>	<b>9.4000e-004</b>	<b>0.0195</b>		<b>95.9723</b>	<b>95.9723</b>	<b>4.0200e-003</b>	<b>9.6100e-003</b>	<b>98.9378</b>



## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.4 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4897	12.0233	14.0072	0.0250		0.4700	0.4700		0.4498	0.4498	0.0000	2,289.8898	2,289.8898	0.4200		2,300.3887
<b>Total</b>	<b>1.4897</b>	<b>12.0233</b>	<b>14.0072</b>	<b>0.0250</b>		<b>0.4700</b>	<b>0.4700</b>		<b>0.4498</b>	<b>0.4498</b>	<b>0.0000</b>	<b>2,289.8898</b>	<b>2,289.8898</b>	<b>0.4200</b>		<b>2,300.3887</b>

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-003	0.1361	0.0463	5.2000e-004	0.0178	7.8000e-004	0.0186	5.1200e-003	7.5000e-004	5.8700e-003		56.9317	56.9317	2.7500e-003	8.4200e-003	59.5102
Worker	0.0184	0.0109	0.1299	3.7000e-004	0.0505	2.1000e-004	0.0507	0.0134	1.9000e-004	0.0136		39.0406	39.0406	1.2700e-003	1.1900e-003	39.4276
<b>Total</b>	<b>0.0217</b>	<b>0.1470</b>	<b>0.1761</b>	<b>8.9000e-004</b>	<b>0.0683</b>	<b>9.9000e-004</b>	<b>0.0693</b>	<b>0.0185</b>	<b>9.4000e-004</b>	<b>0.0195</b>		<b>95.9723</b>	<b>95.9723</b>	<b>4.0200e-003</b>	<b>9.6100e-003</b>	<b>98.9378</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7854	7.4371	11.6737	0.0179		0.3503	0.3503		0.3234	0.3234		1,710.0067	1,710.0067	0.5420		1,723.5556
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7854</b>	<b>7.4371</b>	<b>11.6737</b>	<b>0.0179</b>		<b>0.3503</b>	<b>0.3503</b>		<b>0.3234</b>	<b>0.3234</b>		<b>1,710.0067</b>	<b>1,710.0067</b>	<b>0.5420</b>		<b>1,723.5556</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0346	0.0205	0.2435	7.0000e-004	0.0947	3.9000e-004	0.0951	0.0251	3.6000e-004	0.0255		73.2011	73.2011	2.3800e-003	2.2400e-003	73.9267
<b>Total</b>	<b>0.0346</b>	<b>0.0205</b>	<b>0.2435</b>	<b>7.0000e-004</b>	<b>0.0947</b>	<b>3.9000e-004</b>	<b>0.0951</b>	<b>0.0251</b>	<b>3.6000e-004</b>	<b>0.0255</b>		<b>73.2011</b>	<b>73.2011</b>	<b>2.3800e-003</b>	<b>2.2400e-003</b>	<b>73.9267</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.5 Paving - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7854	7.4371	11.6737	0.0179		0.3503	0.3503		0.3234	0.3234	0.0000	1,710.0067	1,710.0067	0.5420		1,723.5556
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7854</b>	<b>7.4371</b>	<b>11.6737</b>	<b>0.0179</b>		<b>0.3503</b>	<b>0.3503</b>		<b>0.3234</b>	<b>0.3234</b>	<b>0.0000</b>	<b>1,710.0067</b>	<b>1,710.0067</b>	<b>0.5420</b>		<b>1,723.5556</b>

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0346	0.0205	0.2435	7.0000e-004	0.0947	3.9000e-004	0.0951	0.0251	3.6000e-004	0.0255		73.2011	73.2011	2.3800e-003	2.2400e-003	73.9267
<b>Total</b>	<b>0.0346</b>	<b>0.0205</b>	<b>0.2435</b>	<b>7.0000e-004</b>	<b>0.0947</b>	<b>3.9000e-004</b>	<b>0.0951</b>	<b>0.0251</b>	<b>3.6000e-004</b>	<b>0.0255</b>		<b>73.2011</b>	<b>73.2011</b>	<b>2.3800e-003</b>	<b>2.2400e-003</b>	<b>73.9267</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	21.0682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
<b>Total</b>	<b>21.2390</b>	<b>1.1455</b>	<b>1.8091</b>	<b>2.9700e-003</b>		<b>0.0515</b>	<b>0.0515</b>		<b>0.0515</b>	<b>0.0515</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0154</b>		<b>281.8319</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6100e-003	2.7300e-003	0.0325	9.0000e-005	0.0126	5.0000e-005	0.0127	3.3500e-003	5.0000e-005	3.4000e-003		9.7602	9.7602	3.2000e-004	3.0000e-004	9.8569
<b>Total</b>	<b>4.6100e-003</b>	<b>2.7300e-003</b>	<b>0.0325</b>	<b>9.0000e-005</b>	<b>0.0126</b>	<b>5.0000e-005</b>	<b>0.0127</b>	<b>3.3500e-003</b>	<b>5.0000e-005</b>	<b>3.4000e-003</b>		<b>9.7602</b>	<b>9.7602</b>	<b>3.2000e-004</b>	<b>3.0000e-004</b>	<b>9.8569</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 2026****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	21.0682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
<b>Total</b>	<b>21.2390</b>	<b>1.1455</b>	<b>1.8091</b>	<b>2.9700e-003</b>		<b>0.0515</b>	<b>0.0515</b>		<b>0.0515</b>	<b>0.0515</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0154</b>		<b>281.8319</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6100e-003	2.7300e-003	0.0325	9.0000e-005	0.0126	5.0000e-005	0.0127	3.3500e-003	5.0000e-005	3.4000e-003		9.7602	9.7602	3.2000e-004	3.0000e-004	9.8569
<b>Total</b>	<b>4.6100e-003</b>	<b>2.7300e-003</b>	<b>0.0325</b>	<b>9.0000e-005</b>	<b>0.0126</b>	<b>5.0000e-005</b>	<b>0.0127</b>	<b>3.3500e-003</b>	<b>5.0000e-005</b>	<b>3.4000e-003</b>		<b>9.7602</b>	<b>9.7602</b>	<b>3.2000e-004</b>	<b>3.0000e-004</b>	<b>9.8569</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3900e-003	2.9200e-003	0.0212	4.0000e-005	4.5000e-003	3.0000e-005	4.5400e-003	1.2000e-003	3.0000e-005	1.2300e-003		4.1132	4.1132	3.1000e-004	2.2000e-004	4.1865
Unmitigated	2.3900e-003	2.9200e-003	0.0212	4.0000e-005	4.5000e-003	3.0000e-005	4.5400e-003	1.2000e-003	3.0000e-005	1.2300e-003		4.1132	4.1132	3.1000e-004	2.2000e-004	4.1865

## 4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1.00	1.00	1.00	2,128	2,128
Total	1.00	1.00	1.00	2,128	2,128

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	6.60	5.50	6.40	59.00	28.00	13.00	92	5	3

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.503113	0.055239	0.207102	0.145750	0.026695	0.006629	0.011141	0.006248	0.000953	0.000569	0.029502	0.003405	0.003654

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
NaturalGas Unmitigated	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	1434.52	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
<b>Total</b>		<b>0.0155</b>	<b>0.1406</b>	<b>0.1181</b>	<b>8.4000e-004</b>		<b>0.0107</b>	<b>0.0107</b>		<b>0.0107</b>	<b>0.0107</b>		<b>168.7671</b>	<b>168.7671</b>	<b>3.2300e-003</b>	<b>3.0900e-003</b>	<b>169.7700</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	1.43452	0.0155	0.1406	0.1181	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.7671	168.7671	3.2300e-003	3.0900e-003	169.7700
<b>Total</b>		<b>0.0155</b>	<b>0.1406</b>	<b>0.1181</b>	<b>8.4000e-004</b>		<b>0.0107</b>	<b>0.0107</b>		<b>0.0107</b>	<b>0.0107</b>		<b>168.7671</b>	<b>168.7671</b>	<b>3.2300e-003</b>	<b>3.0900e-003</b>	<b>169.7700</b>

## 6.0 Area Detail

## 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5552	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
Unmitigated	0.5552	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003



## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1270					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4280					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9000e-004	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
<b>Total</b>	<b>0.5552</b>	<b>2.0000e-005</b>	<b>2.0400e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>4.3800e-003</b>	<b>4.3800e-003</b>	<b>1.0000e-005</b>		<b>4.6600e-003</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1270					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4280					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.9000e-004	2.0000e-005	2.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.3800e-003	4.3800e-003	1.0000e-005		4.6600e-003
<b>Total</b>	<b>0.5552</b>	<b>2.0000e-005</b>	<b>2.0400e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>4.3800e-003</b>	<b>4.3800e-003</b>	<b>1.0000e-005</b>		<b>4.6600e-003</b>

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

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8.1 Mitigation Measures Waste

9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

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Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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Annual

Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Solvang WWTP  
Santa Barbara-South of Santa Ynez Range County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	20.00	1000sqft	2.35	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	37
Climate Zone	4			Operational Year	2026
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Construction area approximately 2.35 acres.
- Construction Phase - Construction of the proposed Project is expected to begin in October 2024 and would be completed by October 2026.
- Demolition -
- Grading -
- Vehicle Trips - Assumed 1 vehicle per day for maintenance.
- Water And Wastewater - Project would have a 1.5 MG capacity.
- Construction Off-road Equipment Mitigation - Fugitive dust requirements per SBCAPCD Rule 345.
- Vehicle Emission Factors -
- Vehicle Emission Factors -
- Vehicle Emission Factors -
- Fleet Mix -

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	220.00	434.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	6.00	43.00
tblConstructionPhase	NumDays	10.00	22.00
tblGrading	MaterialExported	0.00	5,500.00
tblGrading	MaterialImported	0.00	2,500.00
tblLandUse	LotAcreage	0.46	2.35
tblVehicleTrips	ST_TR	1.99	0.05
tblVehicleTrips	SU_TR	5.00	0.05
tblVehicleTrips	WD_TR	4.96	0.05
tblWater	IndoorWaterUseRate	4,625,000.00	1,500,000.00

**2.0 Emissions Summary**

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## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0467	0.5422	0.3713	1.0500e-003	0.1701	0.0202	0.1903	0.0777	0.0187	0.0964	0.0000	97.1549	97.1549	0.0212	5.2300e-003	99.2434
2025	0.1972	1.5888	1.8518	3.3900e-003	8.7300e-003	0.0615	0.0702	2.3700e-003	0.0588	0.0612	0.0000	282.6966	282.6966	0.0502	1.1600e-003	284.2974
2026	0.3733	1.1474	1.3777	2.4800e-003	6.9400e-003	0.0452	0.0521	1.8800e-003	0.0431	0.0450	0.0000	207.9233	207.9233	0.0389	7.8000e-004	209.1261
Maximum	0.3733	1.5888	1.8518	3.3900e-003	0.1701	0.0615	0.1903	0.0777	0.0588	0.0964	0.0000	282.6966	282.6966	0.0502	5.2300e-003	284.2974

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0467	0.5422	0.3713	1.0500e-003	0.0828	0.0202	0.1030	0.0367	0.0187	0.0554	0.0000	97.1548	97.1548	0.0212	5.2300e-003	99.2434
2025	0.1972	1.5888	1.8518	3.3900e-003	8.7300e-003	0.0615	0.0702	2.3700e-003	0.0588	0.0612	0.0000	282.6963	282.6963	0.0502	1.1600e-003	284.2970
2026	0.3733	1.1474	1.3777	2.4800e-003	6.9400e-003	0.0452	0.0521	1.8800e-003	0.0431	0.0450	0.0000	207.9230	207.9230	0.0389	7.8000e-004	209.1259
Maximum	0.3733	1.5888	1.8518	3.3900e-003	0.0828	0.0615	0.1030	0.0367	0.0588	0.0612	0.0000	282.6963	282.6963	0.0502	5.2300e-003	284.2970

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	47.03	0.00	27.95	50.09	0.00	20.26	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-1-2024	12-31-2024	0.5869	0.5869
2	1-1-2025	3-31-2025	0.4399	0.4399
3	4-1-2025	6-30-2025	0.4446	0.4446
4	7-1-2025	9-30-2025	0.4495	0.4495
5	10-1-2025	12-31-2025	0.4497	0.4497
6	1-1-2026	3-31-2026	0.4398	0.4398
7	4-1-2026	6-30-2026	0.4444	0.4444
8	7-1-2026	9-30-2026	0.3914	0.3914
		Highest	0.5869	0.5869



## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Energy	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	42.9301	42.9301	2.9600e-003	8.1000e-004	43.2444
Mobile	4.3000e-004	5.3000e-004	3.7100e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6787	0.6787	5.0000e-005	4.0000e-005	0.6906
Waste						0.0000	0.0000		0.0000	0.0000	5.1501	0.0000	5.1501	0.2554	0.0000	11.5344
Water						0.0000	0.0000		0.0000	0.0000	0.5307	0.7510	1.2817	1.9500e-003	1.1700e-003	1.6787
<b>Total</b>	<b>0.1046</b>	<b>0.0262</b>	<b>0.0255</b>	<b>1.6000e-004</b>	<b>8.0000e-004</b>	<b>1.9600e-003</b>	<b>2.7600e-003</b>	<b>2.1000e-004</b>	<b>1.9600e-003</b>	<b>2.1700e-003</b>	<b>5.6808</b>	<b>44.3601</b>	<b>50.0409</b>	<b>0.2603</b>	<b>2.0200e-003</b>	<b>57.1485</b>

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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Energy	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	42.9301	42.9301	2.9600e-003	8.1000e-004	43.2444
Mobile	4.3000e-004	5.3000e-004	3.7100e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6787	0.6787	5.0000e-005	4.0000e-005	0.6906
Waste						0.0000	0.0000		0.0000	0.0000	5.1501	0.0000	5.1501	0.2554	0.0000	11.5344
Water						0.0000	0.0000		0.0000	0.0000	0.5307	0.7510	1.2817	1.9500e-003	1.1700e-003	1.6787
<b>Total</b>	<b>0.1046</b>	<b>0.0262</b>	<b>0.0255</b>	<b>1.6000e-004</b>	<b>8.0000e-004</b>	<b>1.9600e-003</b>	<b>2.7600e-003</b>	<b>2.1000e-004</b>	<b>1.9600e-003</b>	<b>2.1700e-003</b>	<b>5.6808</b>	<b>44.3601</b>	<b>50.0409</b>	<b>0.2603</b>	<b>2.0200e-003</b>	<b>57.1485</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## 3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2024	10/31/2024	5	23	
2	Grading	Grading	11/1/2024	12/31/2024	5	43	
3	Building Construction	Building Construction	1/1/2025	8/31/2026	5	434	

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

4	Paving	Paving	9/1/2026	9/30/2026	5	22
5	Architectural Coating	Architectural Coating	10/1/2026	10/30/2026	5	22

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 43****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 30,000; Non-Residential Outdoor: 10,000; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	55.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	1,000.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	8.00	3.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-003	0.0000	6.0000e-003	9.1000e-004	0.0000	9.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0166	0.1597	0.1551	2.8000e-004		7.2600e-003	7.2600e-003		6.7800e-003	6.7800e-003	0.0000	24.2553	24.2553	6.1400e-003	0.0000	24.4088
<b>Total</b>	<b>0.0166</b>	<b>0.1597</b>	<b>0.1551</b>	<b>2.8000e-004</b>	<b>6.0000e-003</b>	<b>7.2600e-003</b>	<b>0.0133</b>	<b>9.1000e-004</b>	<b>6.7800e-003</b>	<b>7.6900e-003</b>	<b>0.0000</b>	<b>24.2553</b>	<b>24.2553</b>	<b>6.1400e-003</b>	<b>0.0000</b>	<b>24.4088</b>

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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.2 Demolition - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	4.4200e-003	1.1700e-003	2.0000e-005	4.7000e-004	3.0000e-005	5.0000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	1.6830	1.6830	1.2000e-004	2.7000e-004	1.7665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.5000e-004	2.7200e-003	1.0000e-005	9.2000e-004	0.0000	9.3000e-004	2.5000e-004	0.0000	2.5000e-004	0.0000	0.6950	0.6950	2.0000e-005	2.0000e-005	0.7023
<b>Total</b>	<b>4.3000e-004</b>	<b>4.6700e-003</b>	<b>3.8900e-003</b>	<b>3.0000e-005</b>	<b>1.3900e-003</b>	<b>3.0000e-005</b>	<b>1.4300e-003</b>	<b>3.8000e-004</b>	<b>3.0000e-005</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>2.3779</b>	<b>2.3779</b>	<b>1.4000e-004</b>	<b>2.9000e-004</b>	<b>2.4688</b>

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-003	0.0000	2.7000e-003	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0166	0.1597	0.1551	2.8000e-004		7.2600e-003	7.2600e-003		6.7800e-003	6.7800e-003	0.0000	24.2553	24.2553	6.1400e-003	0.0000	24.4087
<b>Total</b>	<b>0.0166</b>	<b>0.1597</b>	<b>0.1551</b>	<b>2.8000e-004</b>	<b>2.7000e-003</b>	<b>7.2600e-003</b>	<b>9.9600e-003</b>	<b>4.1000e-004</b>	<b>6.7800e-003</b>	<b>7.1900e-003</b>	<b>0.0000</b>	<b>24.2553</b>	<b>24.2553</b>	<b>6.1400e-003</b>	<b>0.0000</b>	<b>24.4087</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Demolition - 2024****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	4.4200e-003	1.1700e-003	2.0000e-005	4.7000e-004	3.0000e-005	5.0000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	1.6830	1.6830	1.2000e-004	2.7000e-004	1.7665
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.5000e-004	2.7200e-003	1.0000e-005	9.2000e-004	0.0000	9.3000e-004	2.5000e-004	0.0000	2.5000e-004	0.0000	0.6950	0.6950	2.0000e-005	2.0000e-005	0.7023
<b>Total</b>	<b>4.3000e-004</b>	<b>4.6700e-003</b>	<b>3.8900e-003</b>	<b>3.0000e-005</b>	<b>1.3900e-003</b>	<b>3.0000e-005</b>	<b>1.4300e-003</b>	<b>3.8000e-004</b>	<b>3.0000e-005</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>2.3779</b>	<b>2.3779</b>	<b>1.4000e-004</b>	<b>2.9000e-004</b>	<b>2.4688</b>

**3.3 Grading - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1529	0.0000	0.1529	0.0737	0.0000	0.0737	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0280	0.2971	0.1871	4.4000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	38.9227	38.9227	0.0126	0.0000	39.2375
<b>Total</b>	<b>0.0280</b>	<b>0.2971</b>	<b>0.1871</b>	<b>4.4000e-004</b>	<b>0.1529</b>	<b>0.0123</b>	<b>0.1652</b>	<b>0.0737</b>	<b>0.0113</b>	<b>0.0850</b>	<b>0.0000</b>	<b>38.9227</b>	<b>38.9227</b>	<b>0.0126</b>	<b>0.0000</b>	<b>39.2375</b>

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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2300e-003	0.0804	0.0213	3.0000e-004	8.5400e-003	6.1000e-004	9.1500e-003	2.3400e-003	5.8000e-004	2.9200e-003	0.0000	30.5995	30.5995	2.2400e-003	4.9100e-003	32.1184
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.5000e-004	3.9200e-003	1.0000e-005	1.3300e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	0.9994	0.9994	4.0000e-005	3.0000e-005	1.0100
<b>Total</b>	<b>1.7500e-003</b>	<b>0.0807</b>	<b>0.0252</b>	<b>3.1000e-004</b>	<b>9.8700e-003</b>	<b>6.2000e-004</b>	<b>0.0105</b>	<b>2.6900e-003</b>	<b>5.9000e-004</b>	<b>3.2800e-003</b>	<b>0.0000</b>	<b>31.5989</b>	<b>31.5989</b>	<b>2.2800e-003</b>	<b>4.9400e-003</b>	<b>33.1284</b>

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0688	0.0000	0.0688	0.0332	0.0000	0.0332	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0280	0.2971	0.1871	4.4000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	38.9227	38.9227	0.0126	0.0000	39.2374
<b>Total</b>	<b>0.0280</b>	<b>0.2971</b>	<b>0.1871</b>	<b>4.4000e-004</b>	<b>0.0688</b>	<b>0.0123</b>	<b>0.0811</b>	<b>0.0332</b>	<b>0.0113</b>	<b>0.0445</b>	<b>0.0000</b>	<b>38.9227</b>	<b>38.9227</b>	<b>0.0126</b>	<b>0.0000</b>	<b>39.2374</b>

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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2300e-003	0.0804	0.0213	3.0000e-004	8.5400e-003	6.1000e-004	9.1500e-003	2.3400e-003	5.8000e-004	2.9200e-003	0.0000	30.5995	30.5995	2.2400e-003	4.9100e-003	32.1184
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.5000e-004	3.9200e-003	1.0000e-005	1.3300e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	0.9994	0.9994	4.0000e-005	3.0000e-005	1.0100
<b>Total</b>	<b>1.7500e-003</b>	<b>0.0807</b>	<b>0.0252</b>	<b>3.1000e-004</b>	<b>9.8700e-003</b>	<b>6.2000e-004</b>	<b>0.0105</b>	<b>2.6900e-003</b>	<b>5.9000e-004</b>	<b>3.2800e-003</b>	<b>0.0000</b>	<b>31.5989</b>	<b>31.5989</b>	<b>2.2800e-003</b>	<b>4.9400e-003</b>	<b>33.1284</b>

## 3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1944	1.5690	1.8279	3.2700e-003		0.0613	0.0613		0.0587	0.0587	0.0000	271.0946	271.0946	0.0497	0.0000	272.3375
<b>Total</b>	<b>0.1944</b>	<b>1.5690</b>	<b>1.8279</b>	<b>3.2700e-003</b>		<b>0.0613</b>	<b>0.0613</b>		<b>0.0587</b>	<b>0.0587</b>	<b>0.0000</b>	<b>271.0946</b>	<b>271.0946</b>	<b>0.0497</b>	<b>0.0000</b>	<b>272.3375</b>



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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-004	0.0182	6.0700e-003	7.0000e-005	2.2800e-003	1.0000e-004	2.3800e-003	6.6000e-004	1.0000e-004	7.6000e-004	0.0000	6.8599	6.8599	3.2000e-004	1.0100e-003	7.1697
Worker	2.3700e-003	1.5400e-003	0.0178	5.0000e-005	6.4500e-003	3.0000e-005	6.4800e-003	1.7100e-003	3.0000e-005	1.7400e-003	0.0000	4.7422	4.7422	1.6000e-004	1.5000e-004	4.7901
<b>Total</b>	<b>2.8200e-003</b>	<b>0.0198</b>	<b>0.0239</b>	<b>1.2000e-004</b>	<b>8.7300e-003</b>	<b>1.3000e-004</b>	<b>8.8600e-003</b>	<b>2.3700e-003</b>	<b>1.3000e-004</b>	<b>2.5000e-003</b>	<b>0.0000</b>	<b>11.6021</b>	<b>11.6021</b>	<b>4.8000e-004</b>	<b>1.1600e-003</b>	<b>11.9599</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1944	1.5690	1.8279	3.2700e-003		0.0613	0.0613		0.0587	0.0587	0.0000	271.0943	271.0943	0.0497	0.0000	272.3372
<b>Total</b>	<b>0.1944</b>	<b>1.5690</b>	<b>1.8279</b>	<b>3.2700e-003</b>		<b>0.0613</b>	<b>0.0613</b>		<b>0.0587</b>	<b>0.0587</b>	<b>0.0000</b>	<b>271.0943</b>	<b>271.0943</b>	<b>0.0497</b>	<b>0.0000</b>	<b>272.3372</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2025****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-004	0.0182	6.0700e-003	7.0000e-005	2.2800e-003	1.0000e-004	2.3800e-003	6.6000e-004	1.0000e-004	7.6000e-004	0.0000	6.8599	6.8599	3.2000e-004	1.0100e-003	7.1697
Worker	2.3700e-003	1.5400e-003	0.0178	5.0000e-005	6.4500e-003	3.0000e-005	6.4800e-003	1.7100e-003	3.0000e-005	1.7400e-003	0.0000	4.7422	4.7422	1.6000e-004	1.5000e-004	4.7901
<b>Total</b>	<b>2.8200e-003</b>	<b>0.0198</b>	<b>0.0239</b>	<b>1.2000e-004</b>	<b>8.7300e-003</b>	<b>1.3000e-004</b>	<b>8.8600e-003</b>	<b>2.3700e-003</b>	<b>1.3000e-004</b>	<b>2.5000e-003</b>	<b>0.0000</b>	<b>11.6021</b>	<b>11.6021</b>	<b>4.8000e-004</b>	<b>1.1600e-003</b>	<b>11.9599</b>

**3.4 Building Construction - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1289	1.0400	1.2116	2.1700e-003		0.0407	0.0407		0.0389	0.0389	0.0000	179.6910	179.6910	0.0330	0.0000	180.5149
<b>Total</b>	<b>0.1289</b>	<b>1.0400</b>	<b>1.2116</b>	<b>2.1700e-003</b>		<b>0.0407</b>	<b>0.0407</b>		<b>0.0389</b>	<b>0.0389</b>	<b>0.0000</b>	<b>179.6910</b>	<b>179.6910</b>	<b>0.0330</b>	<b>0.0000</b>	<b>180.5149</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2026****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-004	0.0118	3.9500e-003	4.0000e-005	1.5100e-003	7.0000e-005	1.5800e-003	4.4000e-004	6.0000e-005	5.0000e-004	0.0000	4.4639	4.4639	2.2000e-004	6.6000e-004	4.6661
Worker	1.4800e-003	9.2000e-004	0.0109	3.0000e-005	4.2700e-003	2.0000e-005	4.2900e-003	1.1400e-003	2.0000e-005	1.1500e-003	0.0000	3.0668	3.0668	1.0000e-004	9.0000e-005	3.0965
<b>Total</b>	<b>1.7700e-003</b>	<b>0.0127</b>	<b>0.0149</b>	<b>7.0000e-005</b>	<b>5.7800e-003</b>	<b>9.0000e-005</b>	<b>5.8700e-003</b>	<b>1.5800e-003</b>	<b>8.0000e-005</b>	<b>1.6500e-003</b>	<b>0.0000</b>	<b>7.5307</b>	<b>7.5307</b>	<b>3.2000e-004</b>	<b>7.5000e-004</b>	<b>7.7626</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1289	1.0400	1.2116	2.1700e-003		0.0407	0.0407		0.0389	0.0389	0.0000	179.6908	179.6908	0.0330	0.0000	180.5147
<b>Total</b>	<b>0.1289</b>	<b>1.0400</b>	<b>1.2116</b>	<b>2.1700e-003</b>		<b>0.0407</b>	<b>0.0407</b>		<b>0.0389</b>	<b>0.0389</b>	<b>0.0000</b>	<b>179.6908</b>	<b>179.6908</b>	<b>0.0330</b>	<b>0.0000</b>	<b>180.5147</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2026****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-004	0.0118	3.9500e-003	4.0000e-005	1.5100e-003	7.0000e-005	1.5800e-003	4.4000e-004	6.0000e-005	5.0000e-004	0.0000	4.4639	4.4639	2.2000e-004	6.6000e-004	4.6661
Worker	1.4800e-003	9.2000e-004	0.0109	3.0000e-005	4.2700e-003	2.0000e-005	4.2900e-003	1.1400e-003	2.0000e-005	1.1500e-003	0.0000	3.0668	3.0668	1.0000e-004	9.0000e-005	3.0965
<b>Total</b>	<b>1.7700e-003</b>	<b>0.0127</b>	<b>0.0149</b>	<b>7.0000e-005</b>	<b>5.7800e-003</b>	<b>9.0000e-005</b>	<b>5.8700e-003</b>	<b>1.5800e-003</b>	<b>8.0000e-005</b>	<b>1.6500e-003</b>	<b>0.0000</b>	<b>7.5307</b>	<b>7.5307</b>	<b>3.2000e-004</b>	<b>7.5000e-004</b>	<b>7.7626</b>

**3.5 Paving - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.6400e-003	0.0818	0.1284	2.0000e-004		3.8500e-003	3.8500e-003		3.5600e-003	3.5600e-003	0.0000	17.0642	17.0642	5.4100e-003	0.0000	17.1994
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>8.6400e-003</b>	<b>0.0818</b>	<b>0.1284</b>	<b>2.0000e-004</b>		<b>3.8500e-003</b>	<b>3.8500e-003</b>		<b>3.5600e-003</b>	<b>3.5600e-003</b>	<b>0.0000</b>	<b>17.0642</b>	<b>17.0642</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>17.1994</b>

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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.5 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.2000e-004	2.6000e-003	1.0000e-005	1.0200e-003	0.0000	1.0200e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.7312	0.7312	2.0000e-005	2.0000e-005	0.7383
<b>Total</b>	<b>3.5000e-004</b>	<b>2.2000e-004</b>	<b>2.6000e-003</b>	<b>1.0000e-005</b>	<b>1.0200e-003</b>	<b>0.0000</b>	<b>1.0200e-003</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>0.7312</b>	<b>0.7312</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7383</b>

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.6400e-003	0.0818	0.1284	2.0000e-004		3.8500e-003	3.8500e-003		3.5600e-003	3.5600e-003	0.0000	17.0642	17.0642	5.4100e-003	0.0000	17.1994
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>8.6400e-003</b>	<b>0.0818</b>	<b>0.1284</b>	<b>2.0000e-004</b>		<b>3.8500e-003</b>	<b>3.8500e-003</b>		<b>3.5600e-003</b>	<b>3.5600e-003</b>	<b>0.0000</b>	<b>17.0642</b>	<b>17.0642</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>17.1994</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2026****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.2000e-004	2.6000e-003	1.0000e-005	1.0200e-003	0.0000	1.0200e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.7312	0.7312	2.0000e-005	2.0000e-005	0.7383
<b>Total</b>	<b>3.5000e-004</b>	<b>2.2000e-004</b>	<b>2.6000e-003</b>	<b>1.0000e-005</b>	<b>1.0200e-003</b>	<b>0.0000</b>	<b>1.0200e-003</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>0.7312</b>	<b>0.7312</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7383</b>

**3.6 Architectural Coating - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8800e-003	0.0126	0.0199	3.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	2.8086	2.8086	1.5000e-004	0.0000	2.8124
<b>Total</b>	<b>0.2336</b>	<b>0.0126</b>	<b>0.0199</b>	<b>3.0000e-005</b>		<b>5.7000e-004</b>	<b>5.7000e-004</b>		<b>5.7000e-004</b>	<b>5.7000e-004</b>	<b>0.0000</b>	<b>2.8086</b>	<b>2.8086</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>2.8124</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 2026****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0975	0.0975	0.0000	0.0000	0.0984
<b>Total</b>	<b>5.0000e-005</b>	<b>3.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.0975</b>	<b>0.0975</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0984</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2318					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8800e-003	0.0126	0.0199	3.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	2.8086	2.8086	1.5000e-004	0.0000	2.8124
<b>Total</b>	<b>0.2336</b>	<b>0.0126</b>	<b>0.0199</b>	<b>3.0000e-005</b>		<b>5.7000e-004</b>	<b>5.7000e-004</b>		<b>5.7000e-004</b>	<b>5.7000e-004</b>	<b>0.0000</b>	<b>2.8086</b>	<b>2.8086</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>2.8124</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 2026****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.5000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0975	0.0975	0.0000	0.0000	0.0984
<b>Total</b>	<b>5.0000e-005</b>	<b>3.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.0975</b>	<b>0.0975</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0984</b>



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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.3000e-004	5.3000e-004	3.7100e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6787	0.6787	5.0000e-005	4.0000e-005	0.6906
Unmitigated	4.3000e-004	5.3000e-004	3.7100e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6787	0.6787	5.0000e-005	4.0000e-005	0.6906

## 4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1.00	1.00	1.00	2,128	2,128
Total	1.00	1.00	1.00	2,128	2,128

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	6.60	5.50	6.40	59.00	28.00	13.00	92	5	3

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.503113	0.055239	0.207102	0.145750	0.026695	0.006629	0.011141	0.006248	0.000953	0.000569	0.029502	0.003405	0.003654

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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 5.0 Energy Detail

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14.9889	14.9889	2.4200e-003	2.9000e-004	15.1371
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14.9889	14.9889	2.4200e-003	2.9000e-004	15.1371
NaturalGas Mitigated	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9413	27.9413	5.4000e-004	5.1000e-004	28.1073
NaturalGas Unmitigated	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9413	27.9413	5.4000e-004	5.1000e-004	28.1073

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	523600	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9413	27.9413	5.4000e-004	5.1000e-004	28.1073
<b>Total</b>		<b>2.8200e-003</b>	<b>0.0257</b>	<b>0.0216</b>	<b>1.5000e-004</b>		<b>1.9500e-003</b>	<b>1.9500e-003</b>		<b>1.9500e-003</b>	<b>1.9500e-003</b>	<b>0.0000</b>	<b>27.9413</b>	<b>27.9413</b>	<b>5.4000e-004</b>	<b>5.1000e-004</b>	<b>28.1073</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	523600	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9413	27.9413	5.4000e-004	5.1000e-004	28.1073
<b>Total</b>		<b>2.8200e-003</b>	<b>0.0257</b>	<b>0.0216</b>	<b>1.5000e-004</b>		<b>1.9500e-003</b>	<b>1.9500e-003</b>		<b>1.9500e-003</b>	<b>1.9500e-003</b>	<b>0.0000</b>	<b>27.9413</b>	<b>27.9413</b>	<b>5.4000e-004</b>	<b>5.1000e-004</b>	<b>28.1073</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	162000	14.9889	2.4200e-003	2.9000e-004	15.1371
<b>Total</b>		<b>14.9889</b>	<b>2.4200e-003</b>	<b>2.9000e-004</b>	<b>15.1371</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	162000	14.9889	2.4200e-003	2.9000e-004	15.1371
<b>Total</b>		<b>14.9889</b>	<b>2.4200e-003</b>	<b>2.9000e-004</b>	<b>15.1371</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Unmitigated	0.1013	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
<b>Total</b>	<b>0.1013</b>	<b>0.0000</b>	<b>1.8000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.6000e-004</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.8000e-004</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
<b>Total</b>	<b>0.1013</b>	<b>0.0000</b>	<b>1.8000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.6000e-004</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.8000e-004</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.2817	1.9500e-003	1.1700e-003	1.6787
Unmitigated	1.2817	1.9500e-003	1.1700e-003	1.6787

**7.2 Water by Land Use****Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.5 / 0	1.2817	1.9500e-003	1.1700e-003	1.6787
<b>Total</b>		<b>1.2817</b>	<b>1.9500e-003</b>	<b>1.1700e-003</b>	<b>1.6787</b>

## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.5 / 0	1.2817	1.9500e-003	1.1700e-003	1.6787
<b>Total</b>		<b>1.2817</b>	<b>1.9500e-003</b>	<b>1.1700e-003</b>	<b>1.6787</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.1501	0.2554	0.0000	11.5344
Unmitigated	5.1501	0.2554	0.0000	11.5344



## Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	24.8	5.1501	0.2554	0.0000	11.5344
<b>Total</b>		<b>5.1501</b>	<b>0.2554</b>	<b>0.0000</b>	<b>11.5344</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	24.8	5.1501	0.2554	0.0000	11.5344
<b>Total</b>		<b>5.1501</b>	<b>0.2554</b>	<b>0.0000</b>	<b>11.5344</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

Solvang WWTP - Santa Barbara-South of Santa Ynez Range County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

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Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

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## **APPENDIX C**

### **Biological Resource Survey Report**

# BIOLOGICAL ASSESSMENT REPORT

## WASTEWATER TREATMENT PLANT WATER QUALITY UPGRADE PROJECT SOLVANG, SANTA BARBARA COUNTY, CALIFORNIA

*Prepared for:*

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*Prepared by:*



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June 2019

Revised December 2019

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**APPENDIX A: Plant and Wildlife Species- Potential to Occur and Observation**

**APPENDIX B: Photographic Log- Existing Facility Project**

## **1.0 INTRODUCTION**

This biological assessment documents the existing biological resources within proposed projects for the Solvang Wastewater Treatment Plant (WWTP), Solvang, Santa Barbara County, California (Project). Pax Environmental, Inc. (Pax) has prepared this report to document the environmental setting, including the potential occurrence of special-status species and their habitats within the Project site, in support of the California Environmental Quality Act (CEQA) impact analysis of biological resources. This project has two main components that were assessed, the “Existing Facility Project” and the “Recycled Water Pipeline Project,” and are referenced throughout this document.

## **2.0 PROJECT LOCATION**

The Project site is located adjacent to the southwest corner of the City of Solvang’s sphere of influence within unincorporated Santa Barbara County on the south side of the Santa Ynez River, just west of Alisal Road (Figure 1). The site is depicted on the *Solvang* USGS 7.5-minute topographic quadrangle map within Township 7 North, Range 31 West and Township 6 North, Range 30 West.

## **3.0 PROJECT DESCRIPTION**

### **3.1 Existing Facility Project**

The City of Solvang WWTP collects, treats, and disposes of municipal wastewater generated by the City and by the community of Santa Ynez (Figures 1 and 2). The City of Solvang intends to restore lost treatment capacity at its WWTP through rehabilitation and treatment upgrades that would be incorporated into the renewal of the City’s Waste Discharge Permit (WDP) issued by the Central Coast Regional Water Quality Control Board (RWQCB). As part of ongoing WWTP operations, the City has been modifying operational measures to comply with new effluent discharge requirements aimed at reducing elevated nitrogen load in the wastewater that has resulted from water conservation efforts. The additional treatment has reduced overall treatment capacity of the WWTP from 1.5 million gallons per day (MGD) to 0.9 MGD.

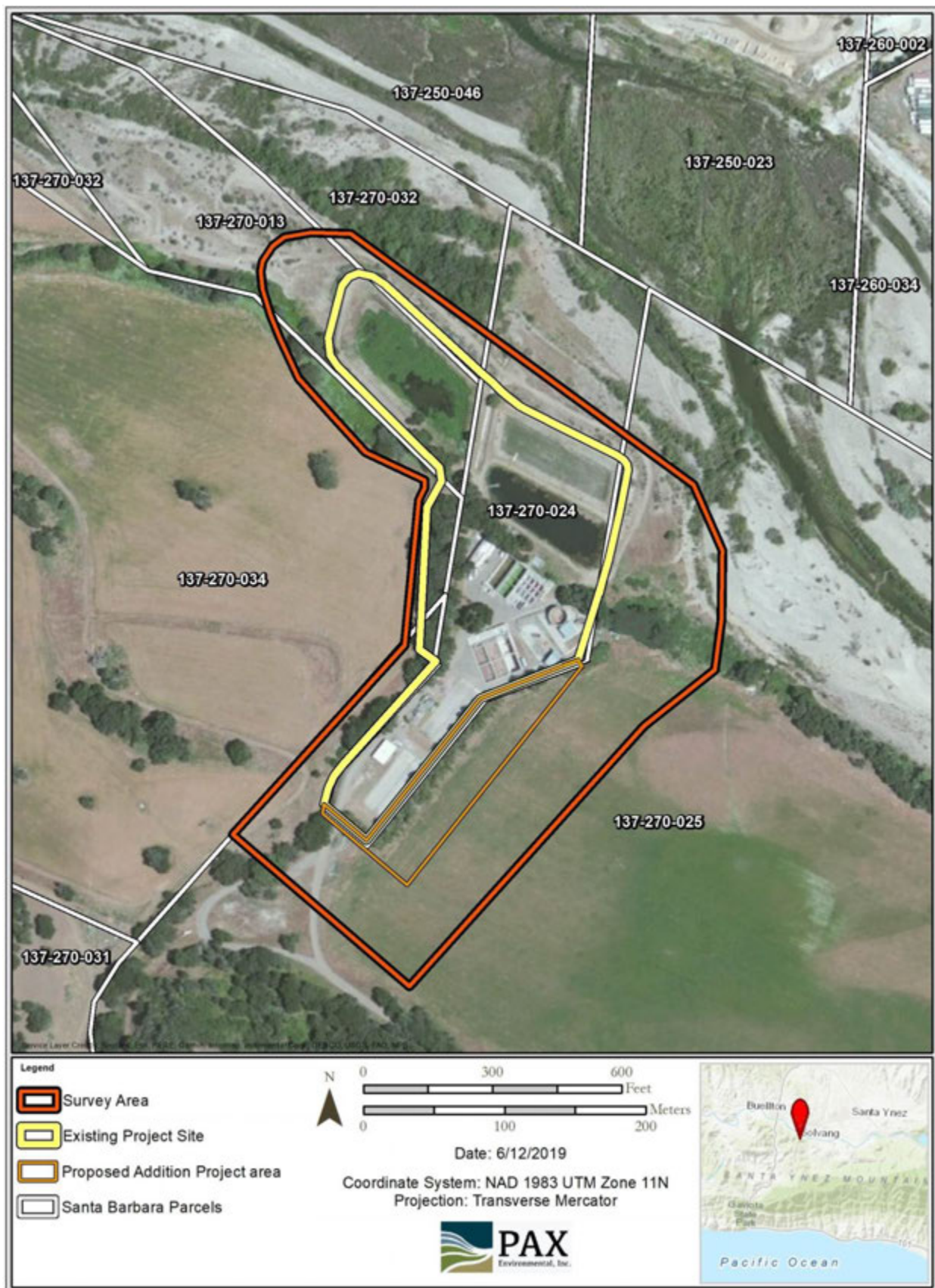
The proposed WWTP Water Quality Project includes improvements to address existing WWTP deficiencies, replace old facilities that have reached the end of their useful life, restore lost treatment capacity, and achieve required consistent removal of nitrogen. The improvements to restore lost capacity will also modify the treatment process to allow for future production of recycled water. Three different treatment alternatives are being considered to meet the effluent discharge requirements of the WDP.

Approximately 2.3 acres of additional land has been acquired to accommodate proposed and future equipment and facilities, site access and maneuverability improvements, recycled water storage and distribution facilities, and solar panels for any of the three alternatives, as shown in Figures 3-6. A new Administration/Lab building will be constructed at the upper (south) end of the WWTP to provide better accessibility, security, process control, and emergency response.





Figure 1. Project Vicinity



**Figure 2. Existing Facility Project- Location and Survey Area**

Construction of the proposed Project is expected to begin in the summer of 2020 and would be completed within approximately 34 months. Maximum depth of disturbance to accommodate the new treatment facilities would be 25 feet (ft.) below ground surface for equalization basin and/or clarifiers.

### **Treatment Improvements**

The following three treatment improvement alternatives for the proposed WWTP improvements:

- Alternative 1 would utilize SBRs for secondary treatment processes (Figure 4),
- Alternative 2 would utilize clarifiers for secondary treatment processes (Figure 5), and
- Alternative 3 would utilize membrane bioreactors (MBRs) for secondary treatment processes. (Figure 6)

### **3.2 Recycled Water Pipeline Project**

In addition to the existing facility upgrades, the WWTP would like to provide recycled water to the Solvang community. This recycled water pipeline is proposed for installation from the existing WWTP across the adjacent Alisal Ranch property, to Alisal Road, adjacent to golf course and existing irrigation infrastructure. There are two proposed pipeline locations for this project (Figure 7). The pipe will consist of a 12-inch diameter PVC pipeline installed within a 2-foot-wide trench. The typical trench depth will be 5.5 ft. deep. Depending on the depth of adjacent utility lines, the trench may be as shallow as 3.5 ft. or as deep as 10 ft. A large excavator will be used for trench excavation, laying pipe, backfilling the trench, and compaction. Dump trucks and pipe delivery trucks will travel along the surface adjacent to the trench to remove trench spoils, deliver sand bedding, and deliver new pipe to support the pipeline installation.

#### **Proposed Water Pipeline Alignment 1**

Alignment 1 would start at the existing facility through the north portion of the agricultural field and then runs south to cross the existing access road to the facility. The line then continues east to Alisal Road through an existing and maintained dirt road approximately 16 ft. wide (Figure 7).

#### **Proposed Water Pipeline Alignment 2**

Alignment 2 is more costly and may not materialize due to funding. It would also begin at the existing facility through the north portion of the agricultural field, then southeast to cross the existing access road to the facility. The line would be horizontally drilled through the existing hill to Alisal Road, resulting in limited surface disturbance.



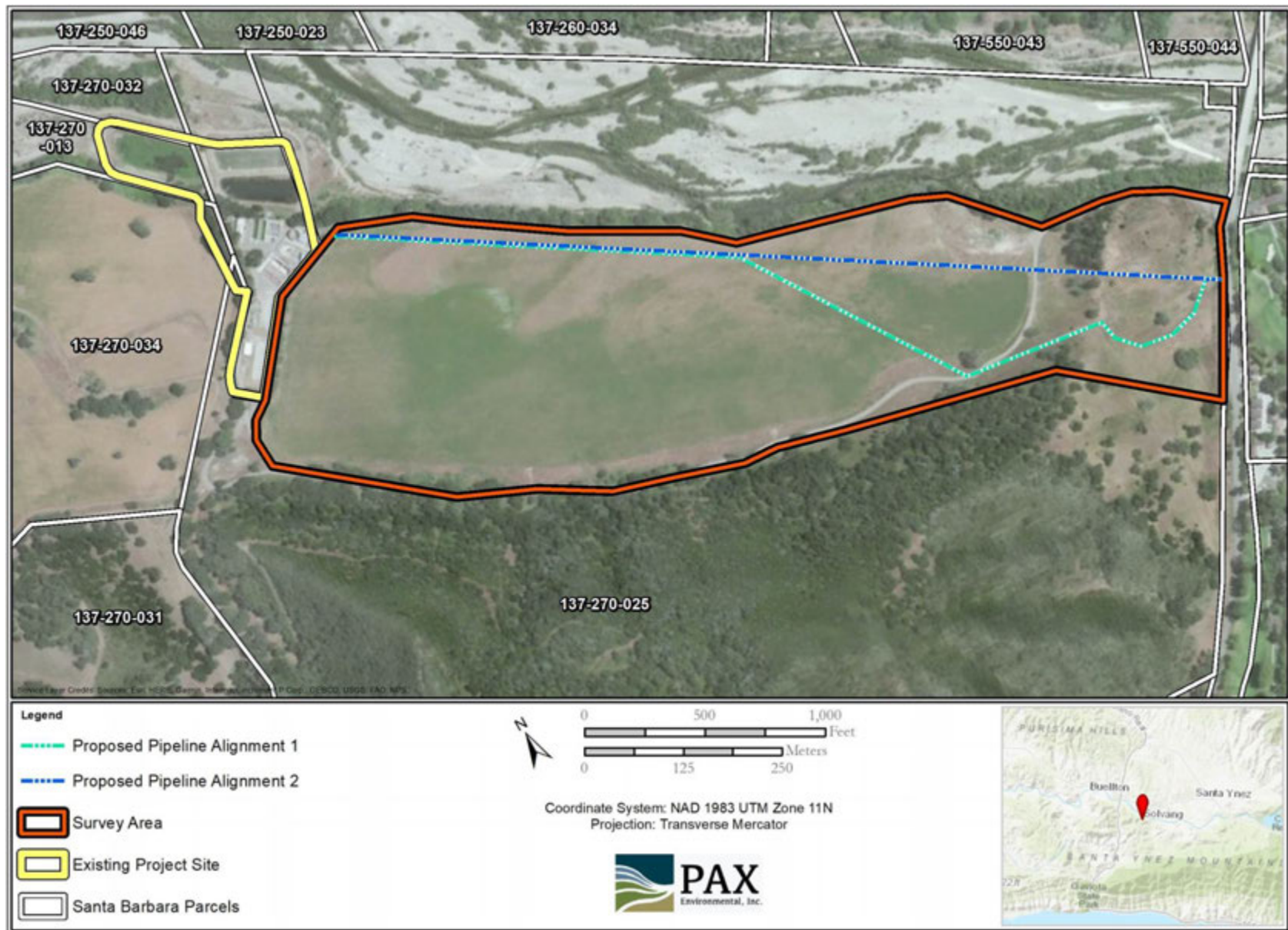


Figure 7. Recycled Water Pipeline Project- Location and Survey Area

## 4.0 METHODS

### 4.1 Literature and Database Review

Prior to the field survey, Pax conducted a records search for special-status plant and wildlife species known to occur in the Project region. Sources utilized during the records search included the California Natural Diversity Database (CNDDDB) (CDFW 2018; Figure 8), the Calflora Observation Hotline (Calflora 2018), the Jepson Flora Project website (eFlora 2018), and more. The CNDDDB records search was performed on the USGS 7.5-minute quadrangle encompassing the Project site and the surrounding eight quadrangles in the eight cardinal directions, including *Solvang*, *Los Alamos*, *Zaca Creek*, *Los Olivos*, *Santa Rosa Hills*, *Santa Ynez*, *Sacate*, *Gaviota*, and *Tajiguas*. Land designations surrounding the Project were also reviewed prior to conducting field work, including private or public lands, critical habitat, and existing jurisdictional water features (Figures 9 and 10).

Additional literature and databases referenced include:

- USFWS Critical Habitat Portal website (USFWS 2019)
- USFWS National Wetlands Inventory (USFWS 2014)
- California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (CNPS 2010)
- The Jepson Manual: Higher Plants of California (Baldwin 2012)
- A Manual of California Vegetation (Sawyer et al. 2009)
- The CalFlora Database (CalFlora 2012)
- eBird website (Sullivan 2009)
- California Herps: A Guide to the Amphibians and Reptiles of California website (Nafis 2000-2016)
- Birds of North America by Cornell Laboratory of Ornithology (Rodewald 2015)

### 4.2 Special-Status Species Definition

For the purposes of this study, a species was considered "special-status" if it met one or more of the following:

- Listed pursuant to the Federal Endangered Species Act (FESA)
- A candidate for listing pursuant to FESA
- A species petitioned for listing pursuant to FESA
- Identified by the US Fish and Wildlife Service as Birds of Conservation Concern (USFWS BCC)
- Listed pursuant to the California Endangered Species Act (CESA)
- A candidate for listing pursuant to CESA
- A species petitioned for listing pursuant to CESA
- Designated by the CDFW as a Fully Protected species (FP)
- Designated by the CDFW as a Watch List species (WL)
- Designated by the CDFW as a Species of Special Concern (SSC)
- Designated by the CDFW as a Special Animal
- Designated by CNPS as List 1A (Presumed extinct in California), List 1B (Rare, threatened, or endangered in California and elsewhere), or List 2 Plant (Plants rare, threatened, or endangered in California but more common elsewhere)



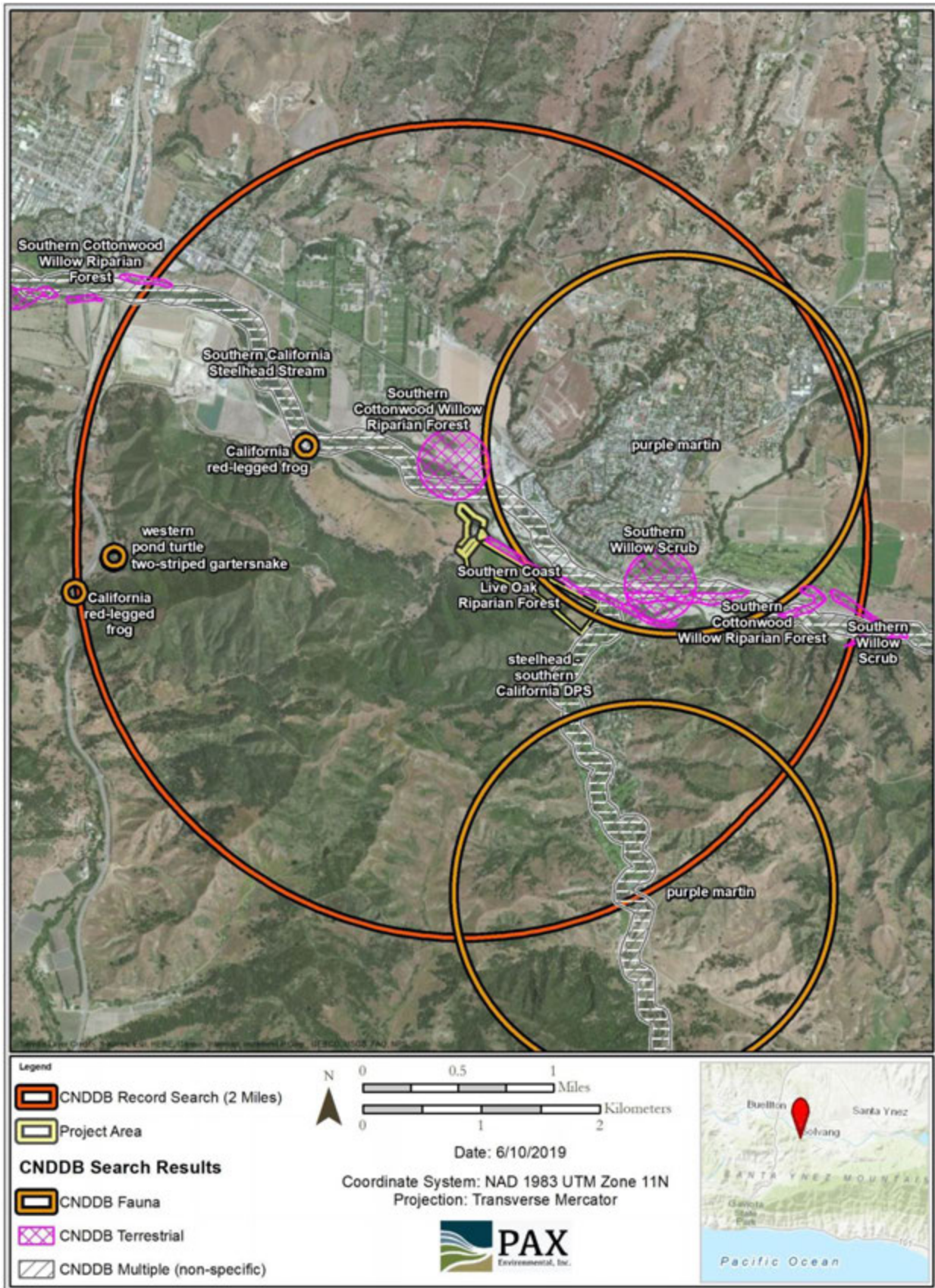


Figure 8. California Natural Diversity Database Records Map



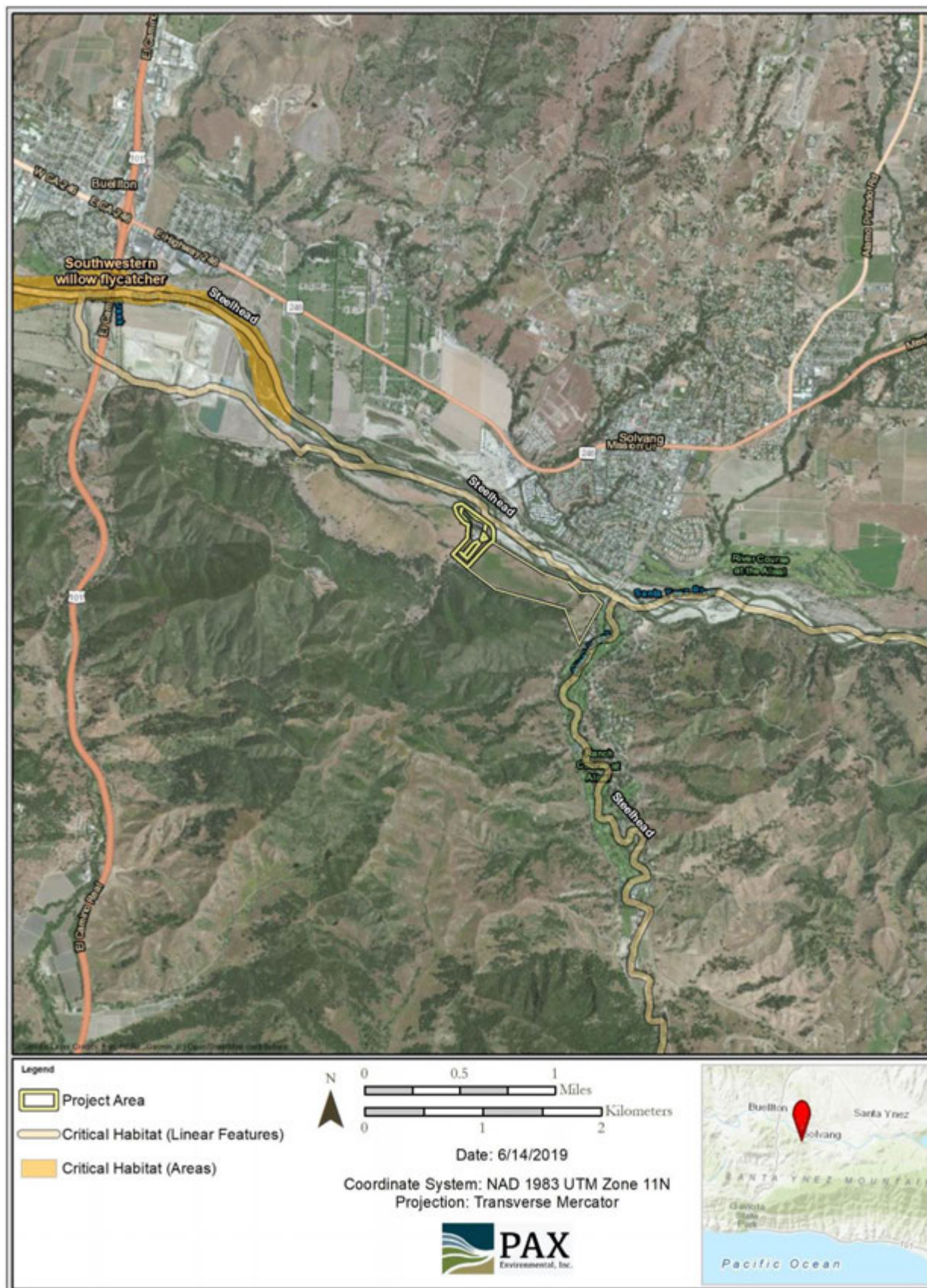
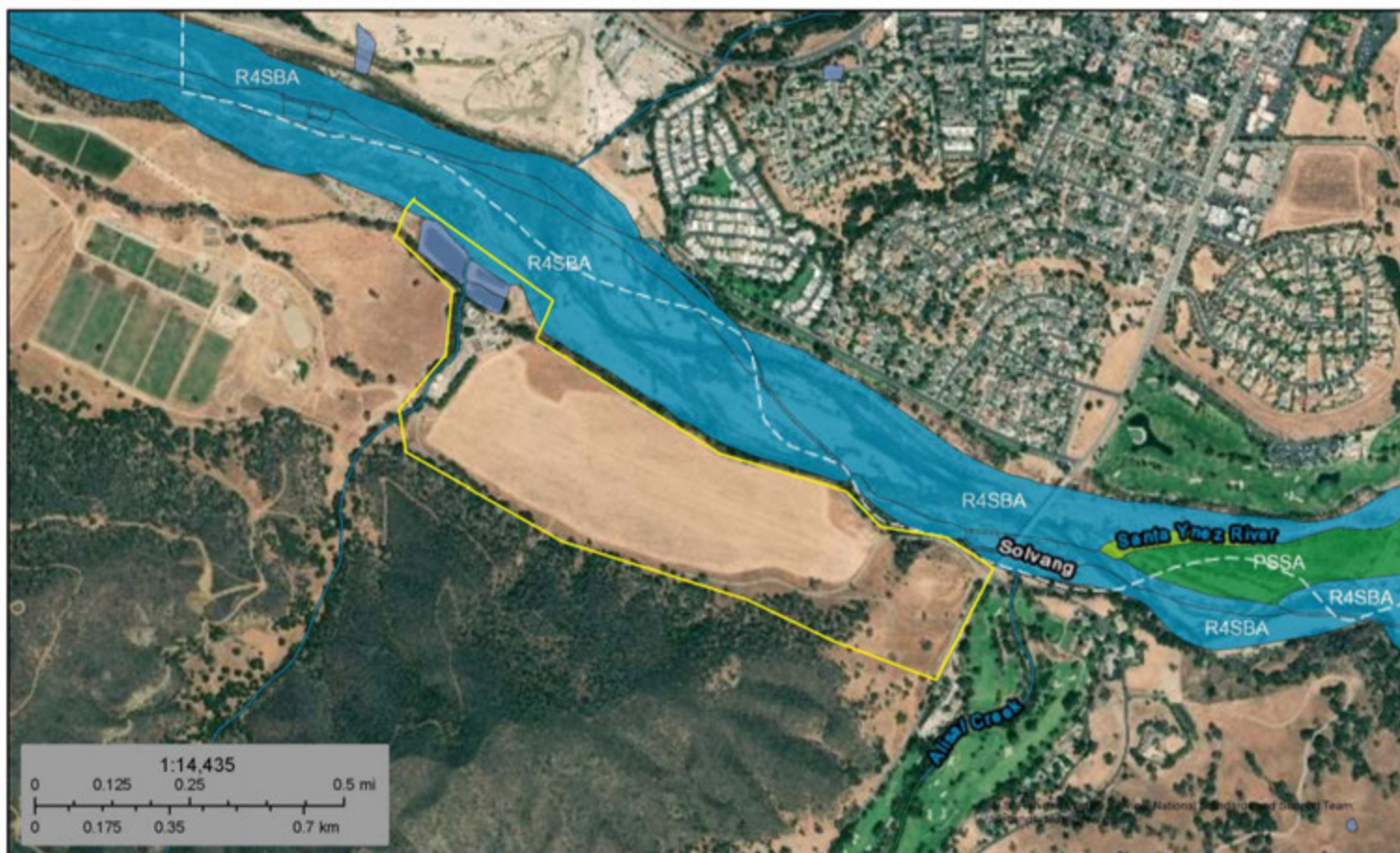


Figure 9. Critical Habitat Map





December 9, 2019

**Wetlands**

Estuarine and Marine Deepwater	Freshwater Emergent Wetland	Lake
Estuarine and Marine Wetland	Freshwater Forested/Shrub Wetland	Other
Project Survey Area	Freshwater Pond	Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)  
This page was produced by the NWI mapper

Figure 10. National Wetland Inventory Waters Vicinity Map



### **4.3 Field Survey**

#### **Existing Facility Project**

Pax biologist and ISA certified arborist Colleen Del Vecchio, conducted a reconnaissance-level field survey for plants and wildlife within the Existing Facility Project Survey Area (SA) on May 24, 2019. The survey was performed between 09:30 and 15:30. Conditions during the survey included temperatures between 62°F to 75° Fahrenheit (F), partly cloudy skies, and wind speeds of 1-2 miles per hour (mph). During the entire survey duration, the WWTP was implementing a routine annual dredging operation of their percolation ponds which contributed to an above average sound level for standard survey conditions. This sound level is assumed to be typical of all WWTP operating procedures and their normal sound level during daily activities.

Plant species were identified during the survey or photographed for laboratory analysis using identification keys described in Hickman (1993) and Baldwin (2012). Nomenclature generally follows Sawyer et al. (2009) for vegetation types and communities and Calflora (2012), Baldwin (2012), and current scientific data (e.g., scientific journals) for plant species. Timing of the survey did coincide with the flowering period for a majority of locally occurring native plant species.

The survey procedure for wildlife species included searching for and identifying the species and/or its diagnostic signs, including vocalizations, tracks, scat, nests, remains, burrows, and habitat features (e.g., rock or debris piles, cavities, and rock outcrops) that may attract and/or support special-status species. Taxonomy and nomenclature for wildlife generally follows Collins and Taggart (2009) for amphibians and reptiles, American Ornithologists Union (AOU 1998) for birds, and Baker et al. (2003) for mammals.

The SA consisted of the proposed Project disturbance area and a 100-200-foot (ft.) buffer. The size of the buffer was dependent on private lands accessibility. The SA did not include portions of the main stem Santa Ynez River because no improvements are proposed to the existing Solvang WWTP facilities within 200 ft. of the river. A visual search for plants and wildlife, or evidence of their presence, was performed with 100% visual coverage within the SA. The SA was analyzed for existing land use and vegetation communities during the site visit and mapped using ArcGIS geographic information mapping system software (Figures 11 and 12). All special-status species and nesting birds observed in the SA were mapped (Figures 13 and 14).

#### **Recycled Water Pipeline Project**

On November 22, 2019 an additional reconnaissance-level field survey for plants and wildlife was conducted within the Recycled Water Pipeline Project SA. The survey was performed between 08:30 and 15:30. Conditions during the survey included temperatures between 55°F and 78°F, mostly clear skies, with wind speeds of 1-4 mph.

All documentation of plants and wildlife were identified using the same methodology as described for the Existing Facility Project survey (above). The timing of the survey for the Recycled Water Pipeline Project did not coincide with the flowering period for a majority of locally occurring native plant species.

Since proposed activities are within an existing fallowed agricultural field, the SA includes 100-ft. buffer 0.30-mile (mi.) west of Proposed Water Pipeline Alignments 1 and 2. The remaining

portion of the SA consists of the proposed project disturbance area plus a 200-foot buffer (Figure 7). The SA did not include portions of the main stem Santa Ynez River because no improvements are proposed to the Recycled Water Pipeline that are expected to impact the river. A visual search for plants and wildlife, or evidence of their presence, was performed with 100% visual coverage within the SA. The SA was analyzed for existing land use and vegetation communities during the site visit and mapped using ArcGIS geographic information mapping system software (Figure 12). All special-status species and nesting birds observed in the SA were mapped (Figure 14).

#### **4.3.1 SPECIAL-STATUS PLANTS AND WILDLIFE**

Plants or wildlife may be considered to have special-status due to declining populations, vulnerability to habitat change, restricted distributions, or insufficient knowledge of the species' biological status. Using information from the various listed sources (Section 4.1), and botanical and faunal surveys of the area, the potential for special-status species to occur within the SA was assessed as Occurs, Likely, Unlikely, or Does Not Occur based on the following criteria:

- Occurs – The species and/or conclusive sign was observed on-site during the survey.
- Likely - This species is expected to occur in the SA based on presence of suitable habitat, and/or based on professional expertise specific to the site or species, and nearby, recent (in the last decade) recorded occurrences for the species.
- Unlikely - This species may have been recorded in the Project vicinity, but the Project is on the periphery of the species range, or there are older records (greater than 10 years) on/near the Project, but there is currently marginally suitable habitat on-site (habitat is highly disturbed, degraded, or limited).
- Does Not Occur - This species is not expected to occur in the proposed SA. Suitable habitat was not observed in the SA during the survey. The SA is outside of the currently known range of the species.

Special-status plant and wildlife species that are known to occur or have the potential to occur in the area are listed in Appendix A, Table 1 and is specific to both the Existing Facility Project SA and the Recycled Water Pipeline Project SA. Observed occurrences of special-status species from the site visit within the vicinity of the SA are provided in Appendix A, Tables 2-5.

## **5.0 RESULTS**

### **5.1 Existing Environment**

#### **Existing Facility Project**

The majority of the existing Project site is located on relatively flat terrain upland of the south bank of the Santa Ynez river. Two existing percolation ponds (one is typically always dry), are located on a lower terrace approximately 350 ft. southeast of the main channel Santa Ynez River. The vegetation community surrounding the percolations ponds are best described as a California Sagebrush- California Buckwheat Scrub (*Artemisia californica* - *Eriogonum fasciculatum* Shrubland Alliance; Sawyer et al. 2009). Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance; Sawyer et al. 2009) borders an ephemeral drainage that runs southwest to northeast into the Santa Ynez River. The woodland also borders the transition between the lower terrace where the percolation ponds are located and the upland habitat where the rest of the facility lies.

Additional vegetation communities include Annual Grassland dominated by non-native species, a Common Wheat (*Triticum aestivum*) Agricultural Field, Landscaped Tree Stands, and Developed or Disturbed areas on the existing facility.

Elevation within the SA ranges from 355 ft. to 425 ft. (108 to 130 meters) above mean sea level (amsl). Soils within the SA are defined on the USDA soils map as Corducci-Typic Xerfluvents, Ballard fine sandy loam, and Sorrento loam (USDA 2018). There is an ephemeral drainage that flows from west to east through the middle of the percolation ponds on the western border of the existing facility and into the Santa Ynez River. This drainage is a blue-line stream according to USGS topographic mapping and is a potentially jurisdictional drainage. The USFWS National Wetland Inventory (NWI) defines the drainage as an intermittent riverine streambed that is seasonally flooded. The NWI also describes the percolation ponds as excavated wetland basins with unconsolidated bottom and/or shore that are temporary flooded or semi-permanently flooded. All proposed project activities are not expected to impact these potentially jurisdictional water features or any associated riparian habitat.

### **Recycled Water Pipeline Project**

The proposed Project site to the east (within the agricultural field) is flat terrain, however, the terrain begins to change where the pipeline crosses the access road to the existing WWTP, and goes east on the Existing Dirt Road. The entire east portion of the project is within the vicinity of a large hill that has a cliff like feature on the north side of the hill, above the access road. The pipeline remains to the south and then east of the hill on an existing and maintained farm road. The agricultural common wheat field accounts for the vegetation community that will have the greatest impacts. The remainder of the project is within Annual Brome Grassland (*Bromus [diandrus, hordeaceus]* - *Brachypodium distachyon* Herbaceous Semi-Natural Alliance, Sawyer et al. 2009) and Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance).

Elevation within the SA ranges from 388 ft. to 512 ft. (118 to 156 meters) amsl. Soils within the proposed pipeline locations on the USDA soils map Ballard fine sandy loam, Linne clay loam, and Los Osos-San Benito clay loams. (USDA 2018). There are ephemeral drainages that flow from south to north into the Santa Ynez River. These drainages were observed outside of the SA to the north, within the oak woodland, and are not represented as blue-line streams according to USGS topographic mapping. The USFWS NWI also does not recognize these drainages in their existing mapping, indicating they may potentially be more of an erosional feature. All proposed project activities are not expected to impact these ephemeral drainages or any associated riparian habitat.

## **5.2 Vegetation Communities**

### **Existing Facility Project**

Four vegetation communities were identified within the SA and are described below using language from the Manual of California Vegetation (Sawyer et al. 2009). Three additional types of land use were identified including Landscaped Tree Stand, Disturbed areas, and Developed areas. All communities and land use within the SA are mapped on Figure 11, and have a total area of 23.07 acres. All individual plant species observed within the SA are listed in Appendix A, Table 2. The expected disturbance to each community is discussed below with approximate area impacts.



Figure 11. Existing Facility Project- Land Use and Vegetation Community Map

### **5.2.1 CALIFORNIA SAGEBRUSH- CALIFORNIA BUCKWHEAT SCRUB**

California Sagebrush- California Buckwheat Scrub (*Artemisia californica* - *Eriogonum fasciculatum* Shrubland Alliance) is co-dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*) in the shrub canopy with deerweed (*Acmispon glaber*), laurel sumac (*Malosma laurina*), coyote brush (*Baccharis pilularis*), fennel (*Foeniculum vulgare*), ripgut brome (*Bromus diandrus*), and black mustard (*Brassica nigra*) also occurring. This habitat type represents suitable nesting habitat for many bird species. This vegetation community was observed along the northern portion of the SA, outside of the existing fence line for the percolation ponds and emergency spillway. The California Sagebrush- California Buckwheat Scrub covers approximately 3.63 acres of the SA (Appendix B: Photos 12 and 13). No impacts to the California Sagebrush- California Buckwheat Scrub is expected from proposed Project activities.

### **5.2.2 COAST LIVE OAK WOODLAND**

Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance) is dominated by coast live oak (*Quercus agrifolia*) with valley oak (*Quercus lobata*) occurring at lower densities. The shrub layer is sparse with poison oak (*Toxicodendron diversilobum*), ceanothus (*Ceanothus* ssp.), toyon (*Heteromeles arbutifolia*), arroyo willow (*Salix lasiolepis*), and holly leaf cherry (*Prunus ilicifolia*). The herbaceous layer is grassy with ripgut brome, rye grass (*Elymus condensatus*), and mulefat (*Baccharis salicifolia*). Arroyo willow and mulefat occurred on the slopes of the existing drainage within the riparian areas of the Coast Live Oak Woodland. This habitat type represents suitable nesting habitat for many bird species. Oak titmouse (*Baeolophus inornatus*) was observed at several locations along the drainage within this community and there is a high likelihood of active nesting. Additionally, a pair of red-tailed hawks (*Buteo jamaicensis*) were observed courting within the woodland (Appendix B: Photo 11). This species is listed as a USFWS Bird of Conservation Concern (BCC) when nesting. This vegetation community was observed in the vicinity of the existing drainage and associated riparian habitat, as well as a stand at the transition of the upland habitat into the upper terrace of the Santa Ynez River. This vegetation community may be considered jurisdictional to the California Department of Fish and Wildlife (CDFW) because it is within the Santa Ynez River wash. Coast Live Oak Woodland covers approximately 4.12 acres of the SA (Appendix B: Photos 2, 4- 6, 11, 18- 21, 23).

Disturbance to the Coast Live Oak Woodland is expected in the northeast corner of the existing parcel where construction of Alternatives 1-3 will impact the woodland, and will likely require the removal of multiple trees. The potential impact from proposed Project activities to the Coast Live Oak Woodland is approximately 0.15 acre. Avoidance and minimization measures outlined in Section 6, discuss re-planting any native trees removed.

### **5.2.3 ANNUAL GRASSLAND- SEMI-NATURAL**

Annual Brome Grassland (*Bromus [diandrus, hordeaceus]* - *Brachypodium distachyon* Herbaceous Semi-Natural Alliance) in the SA is dominated by ripgut brome, soft chess (*Bromus hordeaceus*), and foxtail brome (*Bromus madritensis* ssp. *rubens*). Additional species observed included wild and slim oat (*Avena barbata* and *A. fatua*), black mustard, ribwort (*Plantago lanceolata*), smilo grass (*Stipa miliacea*), annual blue grass (*Poa annua*), and white horehound (*Marrubium vulgare*). This vegetation community was observed between Disturbed and Developed land uses, in the Landscaped Tree Stand

understory, and adjacent to the Common Wheat Agricultural Field. Annual Brome Grassland covers approximately 2.98 acres of the SA (Appendix B: Photos 1, 14, 15).

Disturbance to the Annual Grassland is expected in the eastern portion of the existing parcel where construction for Alternatives 1-3 will impact the grassland. Alternative 2 is expected to have a larger impact on the community. The potential impact from the proposed Project activities to the Annual Brome Grassland is approximately 0.2-0.3 acre.

#### **5.2.4 COMMON WHEAT AGRICULTURAL FIELD**

The Common Wheat Agricultural Field is composed exclusively of common wheat. This vegetation community was planted intentionally as a monocrop. Mule deer were observed bedding down in the field during the site visit (Appendix B: Photo 17). This vegetation community was observed within the proposed addition adjacent to the Landscaped Tree Stand. Common Wheat Agricultural Field covers approximately 4.08 acres of the SA (Appendix B: Photo 15).

Disturbance to the Common Wheat Agricultural Field is expected in the eastern portion of the proposed land acquisition to the existing parcel. Alternative 2 is expected to have an impact on the community, with the proposed Project activities effecting approximately 0.15 acre.

#### **5.2.5 LANDSCAPED TREE STAND**

Landscaped Tree Stand includes coast live oak (1), California sycamore (*Platanus racemosa*) (9), and Peruvian pepper (*Schinus molle*) (35). No shrub layer exists within the community. The herbaceous layer is best defined as annual brome grassland. This habitat type represents suitable nesting habitat for several woodland bird species, including house wren (*Troglodytes aedon*; Appendix B: Photo 16) and western bluebird (*Sialia mexicana*). This vegetation community was observed along the eastern border of the existing facility location. Landscaped Tree Stand covers approximately 0.79 acre of the SA (Appendix B: Photos 1, 3, 14, 15).

Disturbance to the Landscaped Tree Stand is expected in the eastern portion of the existing parcel. Alternatives 1-3 are expected to impact the stand. The potential impact from the proposed Project activities to the Landscaped Tree Stand is approximately 0.1 acre. Avoidance and minimization measures outlined in Section 6 discuss conducting nesting bird pre-construction surveys and replanting any native trees removed.

#### **5.2.6 DISTURBED**

The Disturbed areas describe the existing land use at the percolation ponds, as well as the emergency spillover area that is devoid of vegetation. This area has approximately 45% cover, with maintained dirt roads surrounding each pond area. The eastern pond and emergency spillover have a larger surface area that are exposed with minimal vegetative cover. Suitable nesting bird habitat, and frog and toad habitat are present at Pond #2 (Figure 3). The western pond appears to support more suitable habitat than the remainder of the disturbed habitat. American coots (*Fulica americana*) and mallards (*Anas platyrhynchos*) were observed nesting with young in the western pond (Appendix B: Photos 9 and 10). Tadpoles were also observed in the western pond. The individuals were in their early stages (approximately 4 weeks) with no legs or external gills and could not be identified. Vegetation observed within the Disturbed area was typically non-native, dominated by dock (*Rumex* spp.) closest to the water, and surrounded by poison hemlock (*Conium maculatum*), black mustard, tocalote (*Centaurea melitensis*), common cattail (*Typha latifolia*), horse nettle (*Solanum elaeagnifolium*), and ripgut

brome. Disturbed areas cover approximately 4.11 acres of the existing SA (Appendix B: Photos 7, 8, 22, 23). No impacts to the Disturbed area are expected from proposed Project activities.

#### **5.2.7 DEVELOPED**

Developed areas compose the majority of the WWTP. This area experiences the most human activity. The majority of the surface is impervious and covered with concrete or asphalt. Developed areas include office buildings with parking, an effluent and influent monitoring station, anerobic digester, belt press, sequencing batch reactors, headworks, and drying beds. Suitable nesting bird habitat exists on some of the facility infrastructure. Three house finch (*Haemorhous mexicanus*) nests were observed on the western side of the first building when entering the facility. Developed areas cover approximately 3.32 acres of the SA (Appendix B: Photos 1- 4, 20).

Disturbance to Developed areas is expected in the center and eastern portion of the existing parcel. Alternatives 1-3 are expected to change the Developed area to varying degrees. The potential impacts from proposed Project activities are approximately 0.95- 1.45 acres.

### **Recycled Water Pipeline Project**

Five vegetation communities were identified within the SA and are described below using language from the Manual of California Vegetation (Sawyer et al. 2009). Two additional types of land use were identified including Disturbed areas and Existing Dirt Road. All communities and land use within the SA are mapped on Figure 12, and have a total area of 82.9 acres. All vegetation community impacts were calculated using the expected trench width of 2 ft. and does not include potential impacts from staging of materials or equipment. It is assumed that all materials and equipment will remain on existing roads where feasible, or within the agricultural field instead of the semi-natural grassland.

#### **5.2.8 COAST LIVE OAK WOODLAND**

Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance) is dominated by coast live oak (*Quercus agrifolia*) with valley oak (*Quercus lobata*) occurring at lower densities. The shrub layer is sparse with poison oak (*Toxicodendron diversilobum*), ceanothus (*Ceanothus* sp.), toyon (*Heteromeles arbutifolia*), and black elderberry (*Sambucus nigra*). The herbaceous layer is grassy with ripgut brome, rye grass (*Elymus condensatus*), hummingbird sage (*Salvia spathacea*), and western vervain (*Verbena lasiostachys*). This habitat type represents suitable nesting habitat for many bird species. Oak titmouse was observed at several locations and cavities were observed in many of the trees throughout the woodland. This vegetation community was observed as a stand at the transition of the upland from the Santa Ynez River, and on the hillsides of the Project. The Coast Live Oak Woodland covers approximately 3.85 acres of the SA (Appendix C: Photos 1, 4-6, 12).

Disturbance to the Coast Live Oak Woodland is not expected within the proposed project area for the Recycled Water Pipeline. Alternative 2 suggests drilling horizontally through the hill to reach Alisal Road. The Coast Live Oak Woodland is on the west side of the hill, however, depending on the depth the pipeline is drilled, it is unlikely to substantially impact roots and cause decline of the trees. Care shall be taken in the originating placement of pipeline to avoid drilling directly under a tree where the soil is shallow.



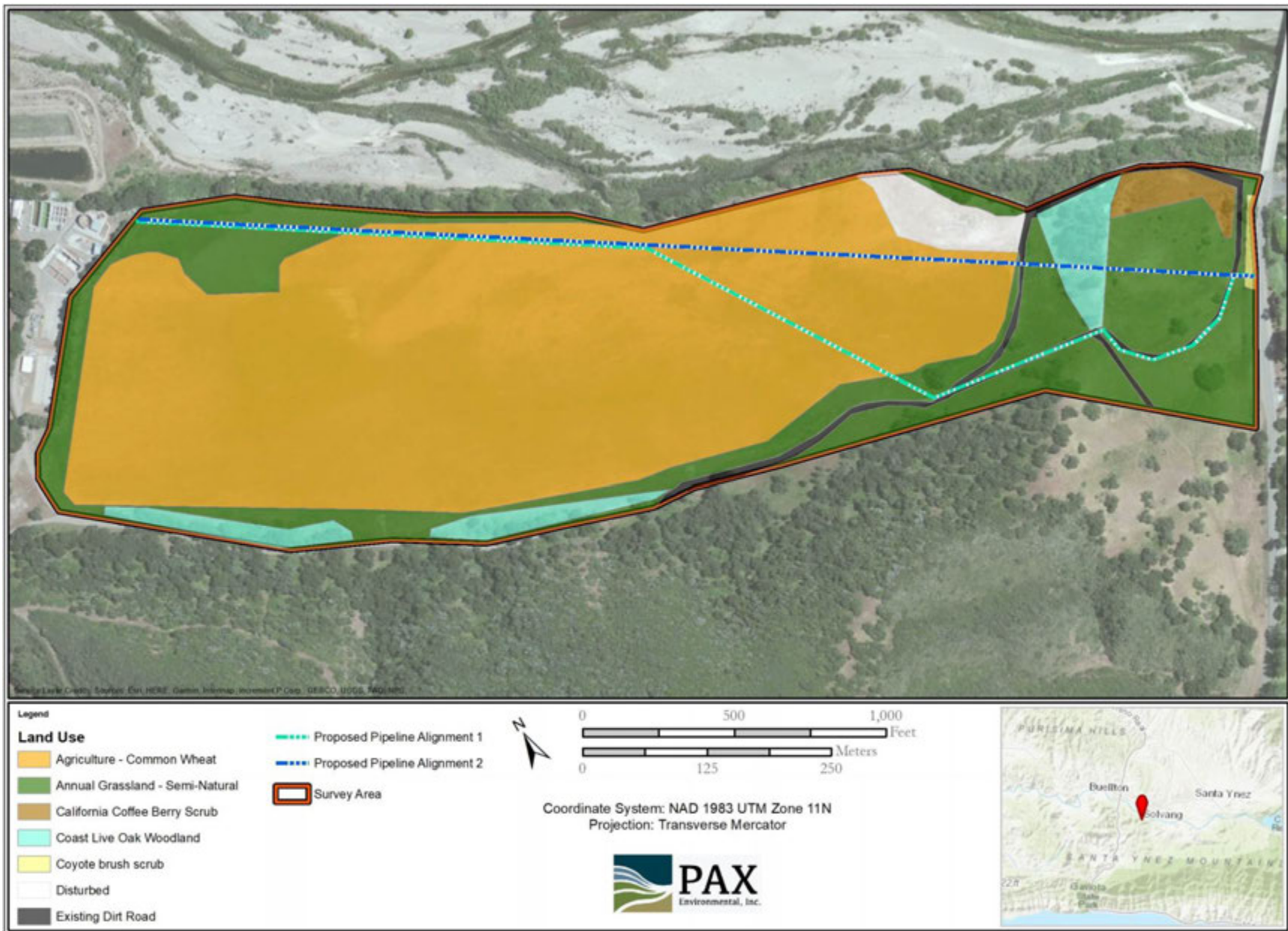


Figure 12. Recycled Water Pipeline Project- Land Use and Vegetation Community Map



### **5.2.9 ANNUAL GRASSLAND- SEMI-NATURAL**

Annual Brome Grassland (*Bromus [diandrus, hordeaceus]* - *Brachypodium distachyon* Herbaceous Semi-Natural Alliance) in the SA is dominated by soft chess and yellow star-thistle (*Centaurea solstitialis*). Additional species observed included wild oat (*A. fatua*), black mustard, telegraph weed (*Heterotheca grandiflora*), California fuchsia (*Epilobium canum*), California aster (*Symphyotrichum chilense*), turkey-mullein (*Croton setiger*), lily (*Calochortus* sp.), and white horehound. This vegetation community was observed surrounding the agricultural field, along the existing roads, and throughout the hill on the west side of the Project site. Annual Brome Grassland covers approximately 21.21 acres of the SA (Appendix C: Photos 1, 2, 4, 7, 12-15, 18).

Disturbance to the Annual Brome Grassland is expected in the eastern and western portion of the pipeline for Alignment 1. Alignment 2 is also expected to impact the eastern portion and produce minimal impacts to the western portion since the pipeline would be drilled under the hill, limiting surface disturbance. The potential impact from the proposed Project activities to the Annual Brome Grassland is approximately 0.040 acre for Alignment 1 and 0.045 acre for Alignment 2.

### **5.2.10 COMMON WHEAT AGRICULTURAL FIELD**

The Common Wheat Agricultural Field is composed of common wheat (*Triticum aestivum*), with some mustard observed after the field was harvested. This vegetation community was planted intentionally as a monocrop. California ground squirrels (*Otospermophilus beecheyi*) were observed with multiple burrow complexes spread throughout the field. A red-tailed hawk was observed feeding on a squirrel during the survey. This vegetation community was observed throughout the western and central portion of the SA. The Common Wheat Agricultural Field covers approximately 53.99 acres of the SA, approximately 65% of the SA (Appendix C: Photo 1, 2, 4, 7, 11).

Disturbance to the Common Wheat Agricultural Field is expected in the western and central portion of the Project site for both Alignment 1 and 2. The potential impact from the proposed Project activities to the Common Wheat Agricultural Field is approximately 0.087 acre for Alignment 1 and 0.10 acre for Alignment 2.

### **5.2.11 CALIFORNIA COFFEE BERRY SCRUB**

California Coffee Berry Scrub (*Frangula californica* Shrubland Alliance) is dominated by California coffee berry (*Frangula californica*) with black elderberry and arroyo willow occurring at lower densities. The shrub layer is sparse and also includes mule fat (*Baccharis salicifolia*), long stem buckwheat (*Eriogonum elongatum*), and California sagebrush. The herbaceous layer is grassy with soft chess, Smilo grass, sweet fennel (*Foeniculum vulgare*), and mustard. This habitat type represents suitable nesting habitat for many bird species. The California Coffee Berry Scrub covers approximately 1.10 acres of the SA.

Disturbance to the California Coffee Berry Scrub is not expected. The pipeline alignments do not go through this vegetation community and there is an existing road to the east of the community, eliminating potential impacts for access or staging of materials.

### **5.2.12 COYOTE BRUSH SCRUB**

Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance) is dominated by coyote brush with ceanothus, Peruvian pepper trees (*Schinus mole*), and valley oak also in the shrub/tree layer. Since this community is along the road, there are signs of some management specifically the planting of the

Peruvian pepper trees along the road. The herbaceous layer is grassy with soft chess, Smilo grass, sweet fennel, mustard, and poison oak. This habitat type represents suitable nesting habitat for many bird species. The Coyote Brush Scrub covers approximately 0.20 acre of the SA (Appendix C: Photo 19).

Disturbance to the Coyote Brush Scrub is expected in the eastern most portion of the Project site for both Alignment 1 and 2. The potential impact from the proposed Project activities to the Coyote Brush Scrub is approximately 0.002 acre for Alignments 1 and 2.

#### **5.2.13 DISTURBED**

The Disturbed area describes the existing land use adjacent to the agricultural area where the farmer stores irrigation materials and stockpiles soil. The ground has generally been grubbed throughout the entire area and was generally void of vegetation during the November 2019 survey. This Disturbed area covers approximately 1.75 acres of the existing SA (Appendix C: Photos 8 and 9). No impacts to the Disturbed area are expected from proposed Project activities.

#### **5.2.14 EXISTING ROAD**

The Existing Road area includes the existing gravel access road that runs west from Alisal Road to the WWTP, as well as the maintained dirt road within the Alisal Ranch land. All roads lack vegetation and appear to have frequent use on weekdays during standard business hours. The dirt road on the Alisal Ranch land was newly re-graded at the time of the November 2019 site visit. The Existing Road area covers approximately 1.90 acres of the SA (Appendix C: Photos 1, 2, 11, 13-15, 19).

Disturbance to the Existing Road area (both the gravel and dirt roads) is expected in the central and eastern portion of the SA for both Alignments. The potential impact from the proposed Project activities to the Existing Road is approximately 0.057 acre for Alignment 1 and 0.002 acre for Alignment 2.

### **5.3 Special-Status Plants**

#### **Existing Facility Project**

Approximately 70 plant species were identified in the SA, 36 (approximately 51%) of which were non-native. A full list of plants observed in the SA is provided in Appendix A, Table 2. No special-status plants species were determined to have a potential to occur within the SA based on the quality of habitat and the types of species observed.

Based on nearby CNDDDB records search, a tabular analysis of special-status plant species potential occurrence within the SA is provided in Appendix A, Table 1. No records of rare plants occur within 3 mi. of the Project site.

#### **Recycled Water Pipeline Project**

Approximately 50 plant species were identified in the SA, 20 (approximately 40%) of which were non-native. A full list of plants observed in the SA is provided in Appendix A, Table 4. One special-status plant species was determined to have a likely potential to occur within the SA, see Section 5.3.1 (below). Based on nearby CNDDDB records, a tabular analysis of special-status plant species potential occurrence within the SA is provided in Appendix A, Table 1. No records of rare plants occur within 3 mi. of the Project site.

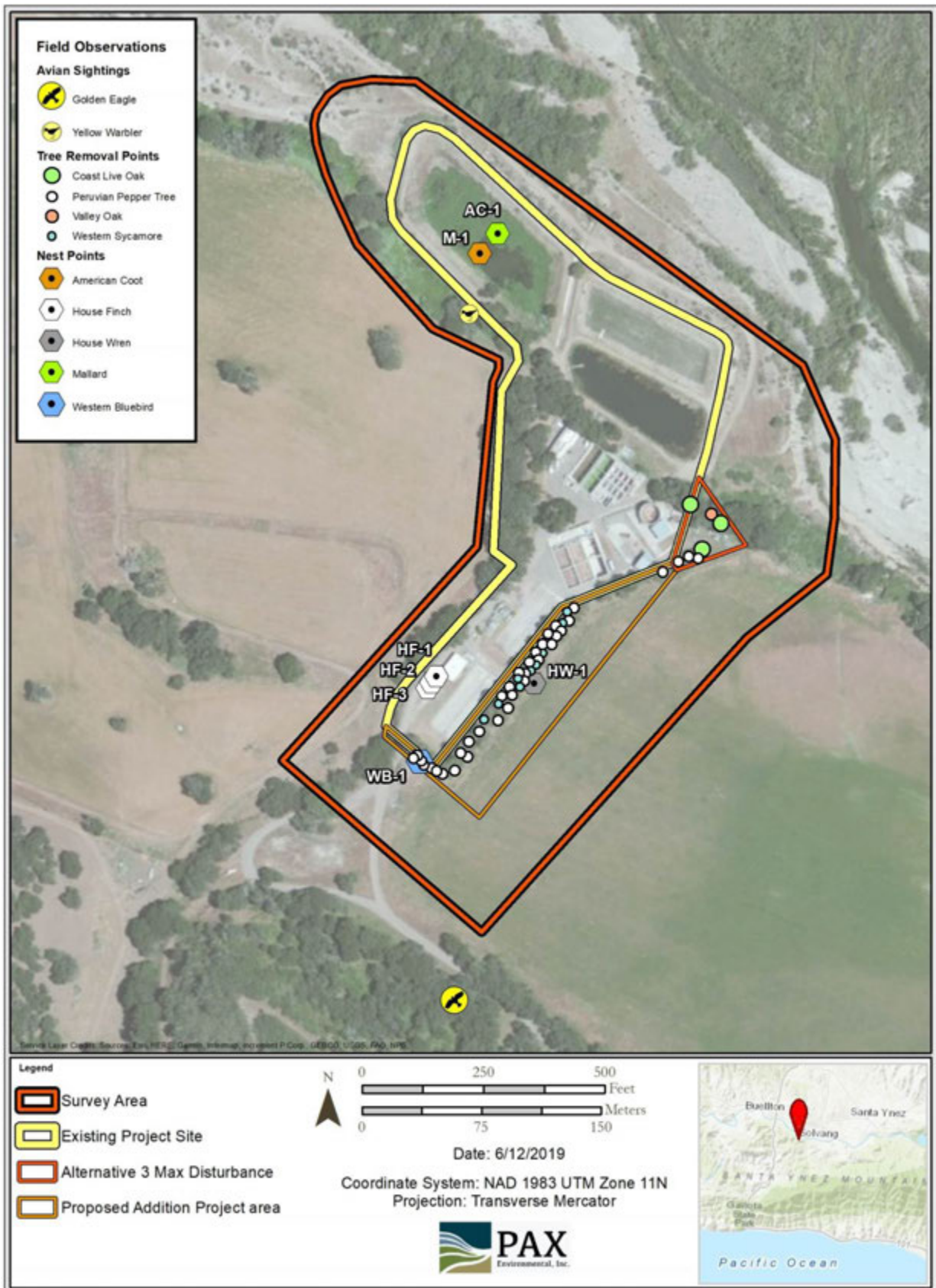


Figure 13. Existing Facility Project- Survey Results



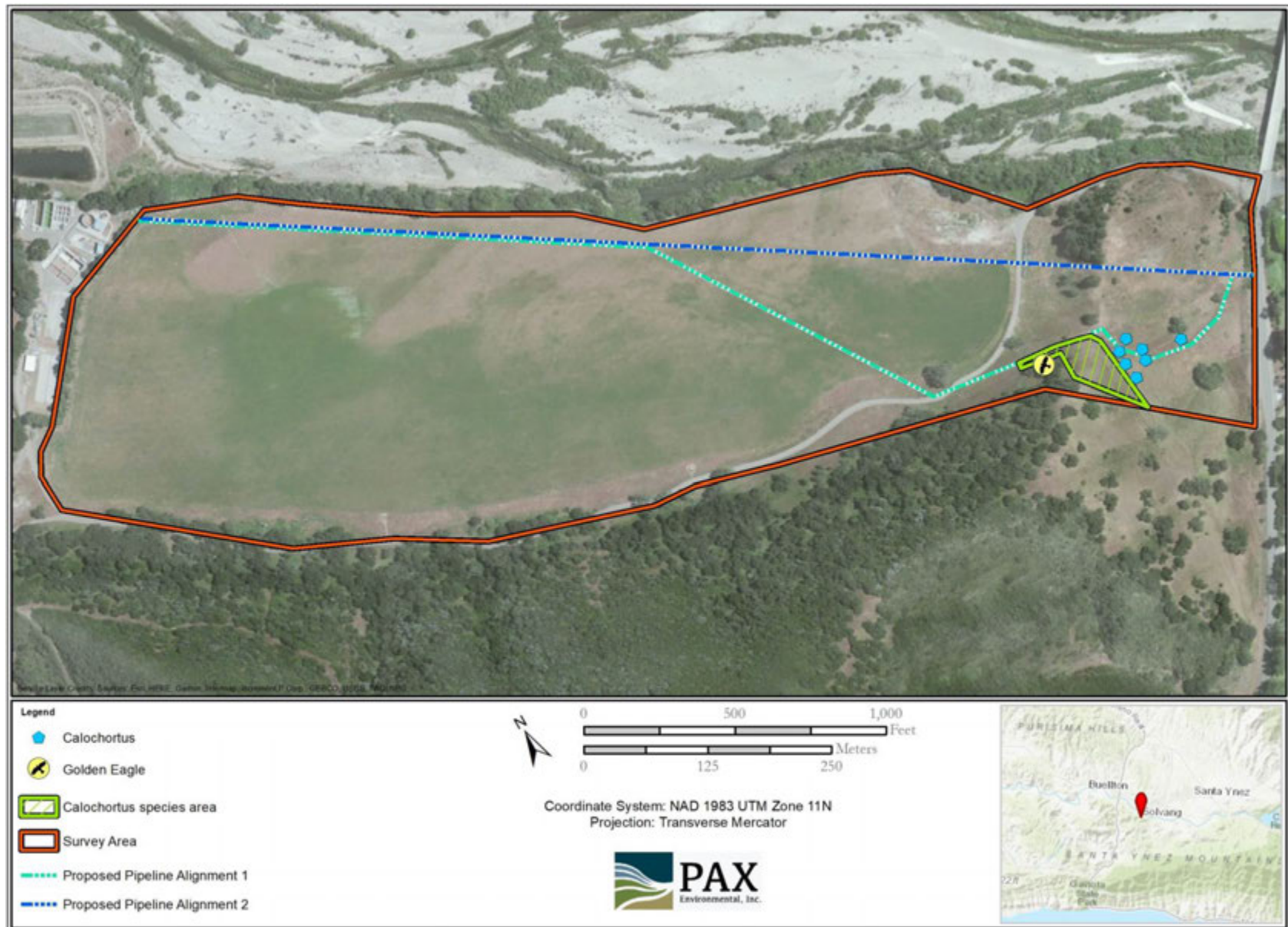


Figure 14. Recycled Water Pipeline- Project Survey Results

### **5.3.1 LATE-FLOWERED MARIPOSA LILY**

The late-flowered mariposa lily (*Calochortus fimbriatus*) has a California Rare Plant Rank of 1B.3. This rank categorizes the plant as rare, threatened, or endangered in California (CA) and elsewhere, but is considered not very threatened. They can be found in dry, open coastal woodland, chaparral habitats at elevations less than 3,000 ft. (900m). The bloom period for this species is July through August. The seed casings of this genus are very distinct. During the time of the November 2019 survey, numerous lily seed casings were observed in the Annual Grassland along the Coast Live Oak Woodland in the eastern portion of the SA (Appendix C: Photos 17 and 18). The casings were empty, the seeds had dropped and could not identify the lily to the species level. A large number were found on a north facing slope just south of the Existing Dirt Road, and numerous individuals were observed along the Existing Dirt Road where Alignment 1 approaches Alisal Road (Figure 14). The avoidance and minimization measures outlined in Section 6.0 for Pre- Construction Survey for Special- Status *Calochortus* Species is to prevent any impacts to this species.

## **5.4 Special-Status Wildlife**

### **Existing Facility Project**

A full list of wildlife observed in the SA are listed in Appendix A, Table 3. Active small mammal burrows were observed within the Annual Grassland habitat and Disturbed areas of the SA. Suitable nesting bird habitat exists throughout SA. Three special-status species were observed in the SA including a soaring golden eagle (*Aquila chrysaetos*; CDFW Fully Protected (FP) and Watch List (WL)), yellow warbler (*Setophaga petechia*; CDFW Species of Special Concern (SSC) and USFWS (BCC)), and oak titmouse (BCC). One additional special-status species, the California red-legged frog (*Rana draytonii*), was determined to have a likely potential to occur in the SA based on suitable habitat being present and existing records within 1 mi. of the SA.

Detailed descriptions of special-status wildlife either observed during the survey or determined to have likely potential to occur within the SA are discussed below. It was also determined that numerous species have an unlikely potential to occur in the SA since none of these species have existing records within 1 mi. of the Project site, but were determined to have suitable habitat in the SA. These species include western pond turtle (*Emys marmorata*), northern California legless lizard (*Anniella pulchra*), two-striped garter snake (*Thamnophis hammondi*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and American badger (*Taxidea taxus*). Additionally, the ferruginous hawk (*Buteo regalis*) and northern harrier (*Circus hudsonius*) were determined to have unlikely potential to forage in the SA the habitat is suitable, but no known records exist within 1 mi. Furthermore, these bird species were also determined to have an unlikely potential to forage and nest in the SA including Cooper's hawk (*Accipiter cooperii*), yellow-breasted chat (*Icteria virens*), and white-tailed kite (*Elanus leucurus*). A tabular analysis of special-status wildlife species potentially occurring in the SA is provided in Appendix A, Table 1.

### **5.4.1 CALIFORNIA RED-LEGGED FROG**

California red-legged frog has a status of Federally Threatened (FT) and CDFW SSC. California red-legged frogs occupy habitat with specific water and upland components. Preferred breeding habitat includes deep ponds and slow-moving streams where emergent vegetation is found on the bank edges. Although primarily aquatic, this species has been recorded in damp terrestrial places and using small

mammal burrows and moist leaf litter as refugia during dry periods. A CNDDDB record from 2007 shows an occurrence approximately 1 mi. west of the SA. This record states, “*multiple adults were heard (advertisement call) in the evening in a pond that was used to receive clean fill from the nearby processing facility*”. Suitable breeding habitat exists in the percolation ponds within the developed area of the existing site. No frogs were observed during the survey. All of the proposed Project activities are expected to occur 50 ft. or more from the areas designated as suitable breeding habitat for this species. The proposed Project area has a potential to impact non-breeding or upland habitat within the Annual Brome Grassland and Coast Live Oak Woodland, adjacent to the suitable breeding habitat. The avoidance and minimization measure outlined in Section 6.0 for pre-construction California red-legged frog surveys is to prevent any impacts to this species.

#### **5.4.2 GOLDEN EAGLE**

Golden eagle has a status of CDFW FP and WL. In California, Golden eagles are typically found breeding on cliffs or in trees, and rarely on the ground. The nesting habitat is typically on cliffs or tall trees, while foraging habitat includes open and semi open habitats such as grasslands, woodland-shrublands, farmlands, and riparian habitats. In central California, this species is observed primarily in open grasslands and oak savannahs (Rodewald 2015). Foraging habitat is essentially the same as nesting habitat with small to medium sized mammals for food supply. No CNDDDB records exist within 3 mi. of the Project however, there are Multiple eBird records for observations of this species along Alisal Creek, just east of the Project. These observations were recorded in three different locations in 2012, 2016, and 2018 by different eBird subscribers. One juvenile golden eagle was observed soaring over the farmland and tracked south over the mountain ridge, away from the Project. This species is likely to be foraging in the fields adjacent to the SA, within the Project vicinity, but not within the proposed Project area. No impacts to this species are expected.

#### **5.4.3 OAK TITMOUSE**

Oak titmouse has a status of USFWS BCC. Oak titmouse is typically found in open oak woodland or shrubland vegetation communities where they forage on invertebrates or seeds, and nest in tree cavities. No CNDDDB records exist within 3 mi. of the Project. eBird records exist for observation of this species along the Santa Ynez River and in the Solvang area just north and east of the Project. These observations were recorded in numerous locations from 2007-2019. Multiple individuals were observed within the SA foraging and calling in the Coast Live Oak Woodlands and Landscaped Tree Stand. Numerous areas were observed with cavities for potential nesting sites within the SA. The avoidance and minimization measure for pre-construction nesting bird surveys outlined in Section 6.0 is to prevent any impacts to this species.

#### **5.4.4 YELLOW WARBLER**

Yellow warbler has a status of CDFW SSC. Yellow warblers are found nesting in most commonly wet thickets, dominated by willows, in disturbed and early successional habitats. Spring and fall migration are typically in the same habitats they use for nesting, along riparian woodlands, forest edge, and shrub habitats (Rodewald 2015). No CNDDDB records exist within 3 mi. of the Project. Multiple eBird records exist for observation of the species at the WWTP from April and May of 2013. This species was observed foraging near the percolation pond and transporting food into the Coast Live Oak Woodland near the drainage. Some thickets exist on the downstream side of the drainage adjacent to the percolation ponds. Only one individual was observed foraging in the percolation pond area and

flying into the understory of the adjacent Coast Live Oak Woodland. There is a potential for nesting within the SA, but no suitable nesting habitat exists within the proposed Project area. The avoidance and minimization measure for pre-construction nesting bird surveys outlined in Section 6.0 is to prevent any impacts to this species.

### **Recycled Water Pipeline Project**

A full list of wildlife observed in the SA are listed in Appendix A, Table 5. Active small mammal burrows were observed within the grassland habitat with California ground squirrel individuals observed using them. Suitable nesting bird habitat exists throughout SA and cavities were observed within the Coast Live Oak Woodland. Three special-status species were observed in the SA including a golden eagle, oak titmouse, and northern harrier. Two additional special-status species, the California red-legged frog and yellow warbler, were determined to have a likely potential to occur in the SA based on the presence of suitable habitat.

Detailed descriptions of special-status wildlife either observed during the survey or determined to have likely potential to occur within the SA are discussed below. It was also determined numerous species have an unlikely potential to occur in the SA as none of these species have existing records within 1 mi. of the Project site, but were determined to have suitable habitat. These species include California red-legged frog, northern California legless lizard, pallid bat, Townsend's big-eared bat, and American badger. Additionally, the ferruginous hawk and burrowing owl (*Athene cunicularia*) were determined to have unlikely potential to forage in the SA since they have suitable habitat, but no records within 1 mi. Furthermore, these bird species were determined have an unlikely potential to forage and nest in the SA including Cooper's hawk, yellow-breasted chat, white-tailed kite, and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*). A tabular analysis of special-status wildlife species potentially occurring in the SA is provided in Appendix A, Table 1.

#### **5.4.5 CALIFORNIA RED-LEGGED FROG**

California red-legged frog has no suitable breeding habitat within the Recycled Water Pipeline Project SA. Since there is breeding habitat in the existing percolation ponds and in the Santa Ynez River to the north of the SA, there is a likely potential that the frogs could use the agricultural field or northern grassland areas as dispersal or migration habitat. During the summer, frogs often leave their breeding habitat to forage and seek shelter when water is not available. The typical shelter observed includes rocks, woody debris, small mammal burrows, and moist leaf litter. This migration has not been observed in all frog populations. Since the percolation ponds are typically holding water year-round, it is possible that if a population does exist at that site, that they do not migrate or disperse at all. However, frogs from other locations may move into the ponds. Individuals have been observed making overland excursions through upland habitat with distances up to 2 mi. (USFWS 2002). The avoidance and minimization measure outlined in Section 6.0 for pre-construction California red-legged frog surveys is to prevent any impacts to this species.

#### **5.4.6 GOLDEN EAGLE**

This species is likely to be foraging in the agricultural field and grasslands within the SA for the Recycled Water Pipeline Project. The agricultural field is abundant with California ground squirrels and this is most likely a main source of prey for golden eagles in the area. Rabbits in the nearby grassland and woodland areas may also provide a food source. A Primary #5 feather was observed on the ground at the edge of the Coast Live Oak Woodland and annual grassland (USFWS Forensics Lab

2010) (Appendix C: Photo 16). Where the feather was found, the eagle was likely using the oak tree for perching and additional feathers were observed on the largest/lowest branch of the tree. No impacts to this species is expected.

#### **5.4.7 OAK TITMOUSE**

Multiple individuals were observed within the SA foraging in the Coast Live Oak Woodland and California Coffeeberry Scrub. Numerous locations were observed with cavities for potential nesting sites within the SA. The avoidance and minimization measure for pre-construction nesting bird surveys outlined in Section 6.0 is to prevent any impacts to this species.

#### **5.4.8 YELLOW WARBLER**

This species was not observed at the time of the November 2019 survey. Due to previous observation of this species previously at the Existing Facility Project area during the May 2019 survey, it is expected yellow warblers would likely be foraging within the Recycled Water Pipeline Project SA in close proximity to the Santa Ynez river. The species would likely be foraging just outside of the SA to the north within the riparian corridor of the Santa Ynez river, and also potentially foraging in the northeast portion of the SA within the California Coffeeberry Shrub where there are some willow and mule fat thickets. It is not expected that this species would be nesting within the SA, since the habitat is more suitable to the north within the Santa Ynez River corridor. There are no known records for this species within 1 mi. The avoidance and minimization measure for pre-construction nesting bird surveys outlined in Section 6.0 is to prevent any impacts to this species.

#### **5.4.9 NORTHERN HARRIER**

Northern Harrier has a status of CDFW SSC. This species is found nesting and foraging in a variety of grassland habitats including salt and freshwater marsh, riparian scrub, coastal scrub, valley and foothill grassland, and more. They typically nest on the ground in shrubby vegetation or in grass. The breeding range for this species is typically throughout coastal California and in the Sierra Mountain range. Solvang is inland of its currently known breeding range and is identified by Cornell Lab of Ornithology as non-breeding territory. A female was observed soaring through the grassland in the SA west of Alisal Road. No impacts to this species are expected.

## **6.0 IMPACT AVOIDANCE AND MINIMIZATION MEASURES**

The following avoidance and minimization measures are recommended to reduce the anticipated impacts to the maximum extent feasible for both the Existing Facility Project and Recycled Water Pipeline Project.

- **Preconstruction Surveys for Nesting Raptors and Birds.** To the extent feasible, removal of vegetation within suitable nesting bird habitats will be scheduled to avoid the nesting season and occur between September and January. For activities that cannot avoid the nesting season (February 15 to August 31), not more than one week prior to initiation of construction activities (e.g. mobilization and staging), a qualified biologist shall conduct preconstruction surveys for nesting raptors and other native nesting birds. The survey for the presence of nesting raptors shall cover all areas within the disturbance footprint plus a 500-foot buffer where access can be secured. If active nests (nests with eggs or chicks) are located, the qualified biologist shall establish an appropriate avoidance buffer depending on the species and sensitivity of the nesting birds. All buffers shall be marked using high-visibility flagging, fencing, and/or signage. No construction activities



shall be allowed within the buffers until the young have fledged from the nest or the nest fails, unless approved by the qualified biologist. The qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. Encroachment into the buffer shall be conducted at the discretion of the qualified biologist. Monitoring reports summarizing nest avoidance measures are recommended while nest buffers are in place, or while activities are occurring within the specified buffer of an inactive nest of a fully protected species for documentation.

- **Pre- Construction Survey for Special- Status Calochortus Species.** In late summer (July- August), it is recommended that a focused botanical survey (potentially 1-3) is completed for the Recycled Water Pipeline Project Survey Area. Since a potentially special-status lily species was detected during the reconnaissance survey, it is recommended that the plant is identified prior to construction to avoid impacts to the species. If the plant is observed to be the late-flowered mariposa lily, or any other species of rare lily, it is recommended that all project activities within that vicinity remain on the Existing Dirt Road.

The initial survey for the Existing Facility Project was during the appropriate bloom period for the majority of special-status plant species in the region, and no rare plants were determined to have suitable habitat within the existing facility.

- **Pre- Construction Survey for Special- Status Herpetofauna.** Within 30 days prior to initiation of ground disturbance, a focused survey for special-status herpetofauna that were determined to have a potential to occur within the Project site, including western pond turtle and two-striped garter snake, will be performed by a qualified biologist. A survey report summarizing results of the survey shall be submitted to the required entity within one week of completing the survey. A qualified biologist shall monitor initial vegetation clearing and ground disturbance to salvage and relocate individuals if any special-status species are observed during the pre-construction survey. Any sightings of special-status species shall be documented and reported to required entities and CDFW.
- **Pre-Construction Survey for California-Red Legged Frog.** The breeding season prior to initiation of ground disturbance, a focused survey for California red-legged frog should be conducted by a qualified biologist to determine their presence/absence in the percolation ponds within the SA. It is recommended 6 surveys are conducted over a minimum of 6 weeks during breeding season, 4 nights and 2 days. Based on the Project location, it is recommended to conduct surveys between February 25<sup>th</sup> to April 30<sup>th</sup>. If California red-legged frogs are determined to be present, the surveys will discontinue immediately, and the USFWS will be notified and consulted on how to proceed and avoid impacts.
- **Tree Protection and Replacement Plan.** To minimize impacts to native trees and offset removals, a tree protection and replacement plan shall be prepared prior to initiation of construction and implemented throughout construction per requirements of the Santa Barbara County Tree Preservation Ordinance. At a minimum, the plan shall include the following elements:
  - 1). The location and extent of driplines for all protected and native trees with a diameter at breast height (dB), within 25 ft. of grading limits shall be identified. Construction envelopes shall be designated outside the driplines of all oak trees. All ground disturbances shall be prohibited outside construction envelopes.

- 2). All protected and native trees within proposed within ground disturbances if approved by the required entity, will be removed with a permit and mitigated for on site. Replacement for non-protected trees may be 1:1 with success criteria and an adaptive management strategy included. For protected trees, re-planting will be designated by the Santa Barbara County Tree Preservation Ordinance or designated regulation. On site mitigation planting sites will be recommended by a qualified biologist, some locations were designated during the survey and can be seen in Appendix B, Photos 21-23.
  - 3). During construction, washing of concrete, paint or equipment shall occur only in areas where polluted water and materials can be contained for later removal from the site. Washing shall not be allowed near sensitive biological resources. An area designated for washing functions shall be identified on plans and clearly marked on the Project site during construction.
  - 4). No permanent irrigation shall occur within the dripline of any existing oak tree.
  - 5). No fill soil, rocks, or construction materials shall be stored or placed within the dripline of protected or native trees.
- **Worker Environmental Awareness Program (WEAP).** Prior to initiation of construction activities (including staging and mobilization), all personnel associated with Project construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special-status resources that may occur in the Project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the Project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented. The form shall be submitted to the required entity to document compliance prior to initiation of construction.

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**APPENDIX A:**  
**Plant and Wildlife Species- Potential to Occur and Observation**

**Table 1.** CNDDDB Records Search (9 Quadrants) and Species Potential to Occur in the Existing Facility Project Survey Area and Recycled Water Pipeline Project Survey Area

Scientific Name	Common Name	Status	Preferred Habitat Description	Potential to Occur Existing Facility (Rationale*)	Potential to Occur Recycled Water Pipeline (Rationale*)
<b>Plants</b>					
Hoover's bent grass	<i>Agrostis hooveri</i>	CNPS 1B.2	Sandy sites in chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland between 195 and 2,510 ft. elevation. Boom period: Dec. - May	Does Not Occur (1)	Does Not Occur (1)
Santa Ynez groundstar	<i>Ancistrocarphus keilii</i>	CNPS 1B.1	Chaparral, cismontane woodland in sandy soils between 130 to 430 ft. Bloom period: March- April	Does Not Occur (1)	Does Not Occur (1)
La Purisima manzanita	<i>Arctostaphylos purissima</i>	CNPS 1B.1	Chaparral, coastal scrub in sandstone outcrops and sandy soil less than 1,000 ft. elevation. Bloom period: Jan.- March	Does Not Occur (1)	Does Not Occur (1)
Refugio manzanita	<i>Arctostaphylos refugioensis</i>	CNPS 1B.2	Chaparral on sandstone outcrops between 1,000 and 2,700 ft. elevation. Bloom period: Dec.- Feb.	Does Not Occur (1, 3)	Does Not Occur (1, 3)
sand mesa manzanita	<i>Arctostaphylos rudis</i>	CNPS 1B.2	Sandy soils in chaparral and coastal scrub in Lompoc/Nipomo area between 65 and 1,100 ft. elevation. Bloom period: Nov.- Feb.	Does Not Occur (1)	Does Not Occur (1)
Miles' milk-vetch	<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	CNPS 1B.2	Clay soils in coastal scrub between 164 and 1,263 ft. elevation. Bloom period: May- Sept.	Does Not Occur (1)	Does Not Occur (1)
Davidson's saltscale	<i>Atriplex serenana</i> var. <i>davidsonii</i>	CNPS 1B.2	Coastal bluff scrub, coastal scrub in alkaline soil, less than 700 ft elevation. Bloom period: April- Oct.	Does Not Occur (1, 2)	Does Not Occur (1, 2)
late-flowered mariposa-lily	<i>Calochortus fimbriatus</i>	CNPS 1B.3	Chaparral, cismontane woodland, riparian woodland.in dry, open coastal woodland, chaparral; on serpentine less than 3,000 ft. elevation. Bloom period: July- Aug.	Does Not Occur (1, 3)	Likely (10)
Santa Barbara jewelflower	<i>Caulanthus amplexicaulis</i> var. <i>barbarae</i>	CNPS 1B.1	Closed-cone coniferous forest, cismontane woodland, chaparral in serpentine soils between 2,600 and 9,500 ft. elevation. Bloom period: April- Aug.	Does Not Occur (2, 3)	Does Not Occur (2, 3)
La Graciosa thistle	<i>Cirsium scariosum</i> var. <i>loncholepis</i>	FE, FT, CNPS 1B.1	Coastal dunes, coastal scrub, brackish marshes, valley and foothill grassland, cismontane woodland. Specifically, lake edges, riverbanks, other wetlands; often in dune areas. Mesic, sandy sites less than 170 ft. elevation. Bloom period: April- Sept.	Does Not Occur (1, 3)	Does Not Occur (1, 3)

California saw-grass	<i>Cladium californicum</i>	CNPS 2B.2	Meadows and seeps, marshes and swamps in freshwater or alkaline moist habitats at 7,000 ft. elevation. Bloom period: June- Sept.	Does Not Occur (1, 3)	Does Not Occur (1, 3)
seaside bird's-beak	<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>	SE, CNPS 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, coastal dunes in sandy, often disturbed sites less than 650 ft. elevation. Bloom period: July- Aug.	Does Not Occur (1)	Does Not Occur (1)
Gaviota tarplant	<i>Deinandra increscens</i> ssp. <i>villosa</i>	FE, SE, CNPS 1B.1	Known from coastal terrace near Gaviota; sandy blowouts amid sandy loam soil; grassland/coast scrub ecotone between 100 and 170 ft. elevation. Bloom period: June-Sept.	Does Not Occur (1)	Does Not Occur (1)
dune larkspur	<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	CNPS 1B.2	Rocky areas in chaparral and coastal dunes between 60 and 1,000 ft elevation. Bloom period: May – Aug.	Does Not Occur (1, 4)	Does Not Occur (1, 4)
umbrella larkspur	<i>Delphinium umbraculorum</i>	CNPS 1B.3	Mesic sites in cismontane woodland and chaparral between 705 and 6,810 ft elevation. Bloom period: April- June	Does Not Occur (1, 3)	Does Not Occur (1, 3)
Vandenberg monkeyflower	<i>Diplacus vanderbergensis</i>	FE, CNPS 1B.1	Cismontane woodland, chaparral, coastal dunes in sandy, often disturbed areas between 250 and 400 ft elevation. Bloom period: May- June	Does Not Occur (2, 4)	Does Not Occur (2, 4)
Lompoc yerba santa	<i>Eriodictyon capitatum</i>	FE, SR, CNPS 1B.2	Closed- cone coniferous forest, chaparral, coastal bluff scrub in sandy soils on terraces between 130 and 3,000 ft elevation. Bloom period: April- July	Does Not Occur (1)	Does Not Occur (1)
Ojai fritillary	<i>Fritillaria ojaiensis</i>	CNPS 1B.2	Rocky soils among broad-leafed upland forest (mesic), chaparral, lower montane coniferous forest, and cismontane woodland between 310 and 3,740 ft elevation. Bloom period: Feb.- May	Does Not Occur (1, 3)	Does Not Occur (1, 3)
mesa horkelia	<i>Horkelia cuneata</i> var. <i>puberula</i>	CNPS 1B.1	Sandy or gravelly areas among chaparral, cismontane woodland, and coastal scrub between 50 and 5,400 ft elevation. Bloom period: Feb.- July	Does Not Occur (2)	Does Not Occur (2)
Kellogg's horkelia	<i>Horkelia cuneata</i> var. <i>sericea</i>	CNPS 1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral between 15 and 1,410 ft elevation. Bloom period: Feb.- July	Does Not Occur (1, 2)	Does Not Occur (1, 2)
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	CNPS 1B.1	Coastal salt marshes, playas, vernal pools between 0 and 4,515 ft elevation. Bloom period: Feb.- July	Does Not Occur (1, 2, 4)	Does Not Occur (1, 2, 4)
Santa Barbara honeysuckle	<i>Lonicera subspicata</i> var. <i>subspicata</i>	CNPS 1B.2	Chaparral, cismontane woodland, coastal scrub less than 3,200 ft. elevation. Bloom period: April-May	Does Not Occur (4)	Does Not Occur (4)

white-veined monardella	<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>	CNPS 1B.3	Dry slopes in chaparral, cismontane woodland less than 5,000 ft. elevation. Bloom period: May- Oct.	Does Not Occur (1)	Does Not Occur (1)
southern curly-leaved monardella	<i>Monardella sinuata</i> ssp. <i>sinuata</i>	CNPS 1B.2	Sandy soils in coastal dunes, coastal scrub, chaparral, cismontane woodland less than 1,000 ft. elevation. Bloom period: April- Sept.	Does Not Occur (1)	Does Not Occur (1)
black-flowered figwort	<i>Scrophularia atrata</i>	CNPS 1B.2	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub between 30 and 1,460 ft elevation. Bloom period: March- July	Does Not Occur (2)	Does Not Occur (2)
chaparral ragwort	<i>Senecio aphanactis</i>	CNPS 2B.2	Chaparral, cismontane woodland, and coastal scrub between 65 and 2,805 ft elevation. Bloom period: April- Sept.	Does Not Occur (1, 2)	Does Not Occur (1, 2)
Sonoran maiden fern	<i>Thelypteris puberula</i> var. <i>sonorensis</i>	CNPS 2B.2	Along seepage areas in meadows or streams between 160 and 2,625 ft. elevation. Bloom period: N/A.	Does Not Occur (1, 4)	Does Not Occur (1, 4)
Santa Ynez false lupine	<i>Thermopsis macrophylla</i>	SR, CNPS 1B.3	In open areas such as fuel breaks, after burns; on sandstone in chaparral between 3,200 and 4,600 ft. elevation. Bloom period: May- June.	Does Not Occur (1, 3, 4)	Does Not Occur (1, 3, 4)
<b>Invertebrates</b>					
obscure bumble bee	<i>Bombus caliginosus</i>	Special Animal	Coastal areas from Santa Barbara county, north to Washington state. Food plant genera include <i>Baccharis</i> spp., <i>Cirsium</i> spp., <i>Lupinus</i> spp., <i>Lotus</i> spp., <i>Grindelia</i> spp. and <i>Phacelia</i> spp.	Does Not Occur (1)	Does Not Occur (1)
Crotch bumble bee	<i>Bombus crotchii</i>	Special Animal	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> spp., <i>Phacelia</i> spp., <i>Clarkia</i> spp., <i>Dendromecon</i> spp., <i>Eschscholzia</i> spp., and <i>Eriogonum</i> spp.	Does Not Occur (1)	Does Not Occur (1)
<b>Fish</b>					
tidewater goby	<i>Eucyclogobius newberryi</i>	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River.	Does Not Occur (1)	Does Not Occur (1)
unarmored threespine stickleback	<i>Gasterosteus aculeatus williamsoni</i>	FE, SE, FP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams.	Does Not Occur (1)	Does Not Occur (1)
steelhead - southern California DPS	<i>Oncorhynchus mykiss irideus</i> pop. 10	FE	Populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County).	Does Not Occur (1)	Does Not Occur (1)
<b>Amphibians</b>					



California tiger salamander	<i>Ambystoma californiense</i>	FT, ST, WL	Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Does Not Occur (1, 4)	Does Not Occur (1, 4)
foothill yellow-legged frog	<i>Rana boylei</i>	SCT, SSC	Partly shaded, shallow streams and riffles with a rocky substrate.	Does Not Occur (1)	Does Not Occur (1)
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	Lowlands and foothills in or near deep permanent water sources with dense, shrubby or emergent riparian vegetation.	Likely (7)	Breeding: Does Not Occur (1); Upland Dispersal Habitat: Likely (7)
western spadefoot	<i>Spea hammondi</i>	SSC	Grasslands and woodlands with vernal pools.	Does Not Occur (1)	Does Not Occur (1)
Coast Range newt	<i>Taricha torosa</i>	SSC	Occupies woodland habitat and will migrate over 1 km to breed in coastal ponds, reservoirs and slow-moving streams between Mendocino and San Diego counties.	Does Not Occur (1)	Does Not Occur (1)
<b>Reptiles</b>					
northern California legless lizard	<i>Anniella pulchra</i>	SSC	Moist sandy or loose loamy soils under sparse vegetation.	Unlikely (6)	Unlikely (6)
coastal whiptail	<i>Aspidoscelis tigris stejnegeri</i>	SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.	Does Not Occur (4)	Does Not Occur (4)
western pond turtle	<i>Emys marmorata</i>	SSC	Ponds, marshes, rivers, streams, and irrigation ditches with basking sites and suitable upland habitat for egg-laying.	Unlikely (5)	Does Not Occur (1)
coast horned lizard	<i>Phrynosoma blainvillii</i>	SSC	Sandy substrate with scattered low bushes and abundant native ants and other insects.	Does Not Occur (1)	Does Not Occur (1)
two-striped gartersnake	<i>Thamnophis hammondi</i>	SSC	Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Unlikely (5)	Does Not Occur (1)
<b>Birds</b>					
Cooper's hawk	<i>Accipiter cooperii</i>	WL	Occupies open woodland and nests in riparian growths of deciduous trees.	Nesting: Unlikely (6); Foraging: Unlikely (6)	Nesting: Unlikely (6); Foraging: Unlikely (6)
tricolored blackbird	<i>Agelaius tricolor</i>	ST, SSC, BCC	Open water with cattails or other protected nesting substrate within a few kilometers of foraging habitat.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Nesting: Does not Occur (1); Foraging: Does Not Occur (1)	Nesting: Unlikely (6); Foraging: Unlikely (6)

golden eagle	<i>Aquila chrysaetos</i>	FP, WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons or large trees in open areas.	Nesting: Does Not Occur (1); Foraging: Observed (10)	Nesting: Does Not Occur (1); Foraging: Observed (10)
burrowing owl	<i>Athene cunicularia</i>	SSC	Open, dry annual or perennial grasslands and scrublands with low-growing vegetation.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (9); Foraging: Unlikely (6)
oak titmouse	<i>Baeolophus inornatus</i>	BCC	A cavity nester in oak woodlands.	Nesting: Likely (1); Foraging: Observed (10)	Nesting: Likely (1); Foraging: Observed (10)
ferruginous hawk	<i>Buteo regalis</i>	WL, BCC	Open grasslands, juniper-sagebrush flats, riparian areas, savannahs, agricultural or ranch lands with groves or lines of trees.	Nesting: Does Not Occur (9); Foraging: Unlikely (6)	Nesting: Does Not Occur (9); Foraging: Unlikely (6)
Vaux's swift	<i>Chaetura vauxi</i>	SSC	Redwood, Douglas-fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.	Nesting: Does Not Occur (1, 4); Foraging: Does Not Occur (4, 5)	Nesting: Does Not Occur (1, 4); Foraging: Does Not Occur (4, 5)
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	ST, SSC	Open grasslands, juniper-sagebrush flats, riparian areas, savannahs, agricultural or ranch lands with groves or lines of trees	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
northern harrier	<i>Circus hudsonius</i>	SSC	Open wetlands, including marshy meadows; wet, lightly grazed pastures; old fields; freshwater and brackish marshes, and tundra; also, dry uplands, including upland prairies, mesic grasslands, drained marshlands, croplands, cold desert shrub-steppe, and riparian woodland. Nests on ground in open (treeless), vegetated habitats, including drained and nondrained wetlands as well as uplands.	Nesting: Does Not Occur (9); Foraging: Unlikely (6)	Nesting: Does Not Occur (9); Foraging: Observed (10)
olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	Nesting habitats are mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir and lodgepole pine.	Nesting: Does Not Occur (1, 3); Foraging: Does Not Occur (1, 3)	Nesting: Does Not Occur (1, 3); Foraging: Does Not Occur (1, 3)
white-tailed kite	<i>Elanus leucurus</i>	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Nesting: Unlikely (6); Foraging: Unlikely (6)	Nesting: Unlikely (6); Foraging: Unlikely (6)
willow flycatcher	<i>Empidonax traillii</i>	SE	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2,000-8,000 ft. elevation.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
southwestern willow flycatcher	<i>Empidonax traillii eximius</i>	FE, SE	Riparian willow thicket woodlands in Southern California.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)

prairie falcon	<i>Falco mexicanus</i>	WL, BCC	Dry open terrain and cliffs for nesting.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
American peregrine falcon	<i>Falco peregrinus anatum</i>	FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
common loon	<i>Gavia immer</i>	SSC	Bodies of water regularly frequented are extensive, fairly deep, and produce quantities of large fish.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
Caspian tern	<i>Hydroprogne caspia</i>	BCC	Inland freshwater lakes and marshes; also, brackish or salt waters of estuaries and bays. Nests on sandy or gravelly beaches.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
yellow-breasted chat	<i>Icteria virens</i>	SSC	Breeds in areas of dense shrubbery, including abandoned farm fields, clear cuts, edges of streams or rivers in the west.	Nesting: Unlikely (6); Foraging: Unlikely (6)	Nesting: Unlikely (6); Foraging: Unlikely (6)
California gull	<i>Larus californicus</i>	WL	Littoral waters, sandy beaches, waters and shorelines of bays, tidal mud-flats, marshes, lakes, etc.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
ashy storm-petrel	<i>Oceanodroma homochroa</i>	SSC	Nest sites on islands are in crevices beneath loosely piled rocks or driftwood, or in caves.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
California brown pelican	<i>Pelecanus occidentalis californicus</i>	FP	Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
double-crested cormorant	<i>Phalacrocorax auritus</i>	WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
purple martin	<i>Progne subis</i>	SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, Ponderosa pine, and Monterey pine.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
Cassin's auklet	<i>Ptychoramphus aleuticus</i>	SSC, BCC	Offshore islands with enough soil for burrowing. Will also nest in rock crevices, under buildings and in debris.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
yellow warbler	<i>Setophaga petechia</i>	SSC	Breeding in thickets and other disturbed or re-growing habitats, particularly along streams and wetlands. Early spring migrant.	Nesting: Likely (6, 10); Foraging: Observed (10)	Nesting: Does Not Occur (1); Foraging: Likely (6)
elegant tern	<i>Thalasseus elegans</i>	WL	Nests on open, sandy, undisturbed beaches and on salt-evaporating pond dikes (San Diego) in association with Caspian tern.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)
least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, SE	Willow, baccharis, mesquite in low riparian in vicinity of water or dry river bottoms below 2,000 ft. elevation.	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)	Nesting: Does Not Occur (1); Foraging: Does Not Occur (1)

## Mammals

pallid bat	<i>Antrozous pallidus</i>	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Unlikely (6)	Unlikely (6)
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites.	Unlikely (6)	Unlikely (6)
southern sea otter	<i>Enhydra lutris nereis</i>	FT, FP	Needs canopies of giant kelp & bull kelp for rafting & feeding. Prefers rocky substrates with abundant invertebrates.	Does Not Occur (1)	Does Not Occur (1)
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	SSC	Moderate to dense coastal scrub of southern California from San Diego County to San Luis Obispo County.	Does Not Occur (1)	Does Not Occur (1)
American badger	<i>Taxidea taxus</i>	SSC	Drier open stages of most shrub, forest, and herbaceous habitats, with friable soils	Unlikely (5)	Unlikely (5)

**Status:**

**Federal/State Status**

FE = Federally Listed Endangered  
 FT = Federally Listed Threatened  
 BCC = USFWS Birds of Conservation Concern  
 SE = State Listed Endangered  
 SR = State Rare  
 SCT = State Candidate Threatened  
 FP = California Fully Protected  
 WL = California Watch List Species  
 SSC = California Species of Special Concern  
 SA = California Special Animal

**Potential to Occur Rationale\*:**

- 1: Lack of suitable habitat
- 2: Lack of suitable substrate
- 3: Beyond known elevation range
- 4: Beyond known geographic range
- 5: Marginally suitable habitat present
- 6: Suitable habitat present but no known records within one mile (or appropriate distance based on typically-sized territory for the species)
- 7: Suitable habitat present with known records within one mile (or appropriate distance based on typically-sized territory for the species)
- 8: Suitable habitat present with known records within one mile (records are historic, 25 years or more)
- 9: Overwintering migrant
- 10: Species or evidence of presence observed during survey

**California Rare Plant Rank (CRPR)**

1B = Rare, threatened, or endangered in California (CA) and elsewhere  
 2B = Rare, threatened, or endangered in CA and more common elsewhere  
 .1 = Seriously threatened in California  
 .2 = Fairly threatened in California  
 .3 = Not very threatened in California

**Table 2.** Plants observed within the **Existing Facility Project Survey Area** during a site visit on May 24, 2019.

Common Name	Scientific Name	Family
deerweed	<i>Acmispon glaber</i>	Fabaceae
aloe*	<i>Aloe maculata</i>	Asphodelaceae
tumbleweed*	<i>Amaranthus albus</i>	Amaranthaceae
manzanita**	<i>Arctostaphylos</i> ssp.	Ericaceae
California sagebrush	<i>Artemisia californica</i>	Asteraceae
Santa Barbara milk vetch	<i>Astragalus trichopodus</i> var. <i>phoxus</i>	Fabaceae
slim oat*	<i>Avena barbata</i>	Poaceae
wild oat*	<i>Avena fatua</i>	Poaceae
coyote brush	<i>Baccharis pilularis</i>	Asteraceae
mule fat	<i>Baccharis salicifolia</i>	Asteraceae
black mustard*	<i>Brassica nigra</i>	Brassicaceae
ripgut brome*	<i>Bromus diandrus</i>	Poaceae
soft chess*	<i>Bromus hordeaceus</i>	Poaceae
foxtail brome*	<i>Bromus madritensis</i> ssp. <i>rubens</i>	Poaceae
Italian thistle*	<i>Carduus pycnocephalus</i>	Asteraceae
ceanothus	<i>Ceanothus</i> ssp.	Rhamnaceae
tocalote*	<i>Centaurea melitensis</i>	Asteraceae
lambs quarters*	<i>Chenopodium album</i>	Chenopodiaceae
bull thistle*	<i>Cirsium vulgare</i>	Asteraceae
‘sunset’ rockrose**	<i>Cistus X pulverulentus</i>	Cistaceae
poison hemlock*	<i>Conium maculatum</i>	Apiaceae
common cryptantha	<i>Cryptantha intermedia</i>	Boraginaceae
Italian cypress*	<i>Cupressus sempervirens</i>	Cupressaceae
tall cypress	<i>Cyperus eragrostis</i>	Cyperaceae
jimsonweed	<i>Datura</i> sp.	Solanaceae
giant wild rye	<i>Elymus condensatus</i>	Poaceae
California buckwheat	<i>Eriogonum fasciculatum</i>	Polygonaceae
coastal heron’s bill*	<i>Erodium cicutarium</i>	Geraniaceae
big heron bill*	<i>Erodium botrys</i>	Geraniaceae
red iron bark*	<i>Eucalyptus sideroxylon</i>	Myrtaceae
Italian rye grass*	<i>Festuca perennis</i>	Poaceae
fennel*	<i>Foeniculum vulgare</i>	Apiaceae
chaparral yucca	<i>Hesperoyucca whipplei</i>	Agavaceae
toyon	<i>Heteromeles arbutifolia</i>	Rosaceae
Mediterranean hoary mustard*	<i>Hirschfeldia incana</i>	Brassicaceae
Mediterranean barley*	<i>Hordeum marinum</i>	Poaceae
scarlet pimpernel*	<i>Lysimachia arvensis</i>	Myrsinaceae
laurel sumac	<i>Malosma laurina</i>	Anacardiaceae
cheeseweed*	<i>Malva parvifolia</i>	Malvaceae
California man-root	<i>Marah fabacean</i>	Cucurbitaceae

Common Name	Scientific Name	Family
white horehound*	<i>Marrubium vulgare</i>	Lamiaceae
California burclover*	<i>Medicago polymorpha</i>	Fabaceae
Ngaio tree	<i>Myoporum laetum</i>	Scrophulariaceae
tree tobacco*	<i>Nicotiana glauca</i>	Solanaceae
Tuna*	<i>Opuntia ficus-indica</i>	Cactaceae
coffee fern	<i>Pellaea andromedifolia</i>	Pteridaceae
mistletoe	<i>Phoradendron</i> ssp.	Viscaceae
California sycamore	<i>Platanus racemosa</i>	Platanaceae
ribwort*	<i>Plantago lanceolata</i>	Plantaginaceae
Annual blue grass	<i>Poa annua</i>	Poaceae
Fremont cottonwood	<i>Populus fremontii</i>	Salicaceae
Wright's cudweed	<i>Pseudognaphalium microcephalum</i>	Asteraceae
holly leaf cherry	<i>Prunus ilicifolia</i>	Rosaceae
coast live oak	<i>Quercus agrifolia</i>	Fagaceae
valley oak	<i>Quercus lobata</i>	Fagaceae
lemonade berry	<i>Rhus integrifolia</i>	Anacardiaceae
California blackberry	<i>Rubus ursinus</i>	Rosaceae
dock	<i>Rumex</i> ssp.	Polygonaceae
arroyo willow	<i>Salix lasiolepis</i>	Salicaceae
blue elderberry	<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Adoxaceae
Peruvian pepper tree*	<i>Schinus mole</i>	Anacardiaceae
horse nettle*	<i>Solanum elaeagnifolium</i>	Solanaceae
perennial sow thistle	<i>Sonchus arvensis</i>	Asteraceae
smilo grass*	<i>Stipa miliacea</i>	Poaceae
Spanish moss*	<i>Tillandsia usneoides</i>	Bromeliaceae
poison oak	<i>Toxicodendron diversilobum</i>	Anacardiaceae
common wheat*	<i>Triticum aestivum</i>	Poaceae
common cattail	<i>Typha latifolia</i>	Typhaceae
stinging nettle	<i>Urtica</i> ssp.	Urticaceae
vinca*	<i>Vinca major</i>	Apocynaceae

\* Non-Native Plant

\*\*Cultivated/Hybrid Plant

**Table 3.** Wildlife species observed within the **Existing Facility Project Survey Area** during a site visit on May 24, 2019.

Common Name	Scientific Name
<b>Reptiles</b>	
coast range fence lizard	<i>Sceloporus occidentalis bocourtii</i>
<b>Birds</b>	
mallard*	<i>Anas platyrhynchos</i>
California scrub-jay	<i>Aphelocoma californica</i>
<b>golden eagle</b>	<b><i>Aquila chrysaetos</i></b>
<b>oak titmouse*</b>	<b><i>Beeolophus inornatus</i></b>
red-tailed hawk*	<i>Buteo jamaicensis</i>
California quail	<i>Callipepla californica</i>
Anna's hummingbird	<i>Calypte anna</i>
turkey vulture	<i>Cathartes aura</i>
killdeer	<i>Charadrius vociferus</i>
American crow	<i>Corvus brachyrhynchos</i>
American coot*	<i>Fulica americana</i>
house finch	<i>Haemorhous mexicanus</i>
barn swallow	<i>Hirundo rustica</i>
dark-eyed junco	<i>Junco hyemalis</i>
acorn woodpecker	<i>Melanerpes formicicorus</i>
song sparrow	<i>Melospiza melodia</i>
spotted towhee	<i>Pipilo maculatus</i>
black phoebe	<i>Sayornis nigricans</i>
western bluebird*	<i>Sialia mexicana</i>
<b>yellow warbler</b>	<b><i>Setophaga petechia</i></b>
white-breasted nuthatch	<i>Sitta carolinensis</i>
American goldfinch	<i>Spinus tristis</i>
European starling	<i>Sturnus vulgaris</i>
violet-green swallow	<i>Tachycineta thalassina</i>
house wren*	<i>Troglodytes aedon</i>
mourning dove	<i>Zenaida macroura</i>
<b>Insects</b>	
vivid dancer	<i>Argia vivida</i>
Western tiger swallowtail	<i>Papilio rutulus</i>
cabbage white	<i>Pieris rapae</i>
<b>Mammals</b>	
mule deer	<i>Odocoileus hemionus</i>
California ground squirrel	<i>Otospermophilus beecheyi</i>
Botta's pocket gopher	<i>Thomomys bottae</i>

\*Nesting behavior observed

**Bold**= Special-status species

**APPENDIX B:**  
**Photographic Log- Existing Facility Project**





**Photo 1.** First building in the WWTP located within Development area; Landscaped Tree Stand in background, facing northeast.



**Photo 2.** Influent monitoring and headworks in Development area; Coast Live Oak Woodland with drainage on opposite side of fence, facing northwest.



**Photo 3.** Drying beds in the Development area; Landscaped Tree Stand in background, facing northeast.



**Photo 4.** Main office in the Development area with landscaped plants; Coast Live Oak Woodland with drainage in background, facing northwest.





**Photo 5.** Drainage in Coast Live Oak Woodland upstream from percolation ponds, facing south.



**Photo 6.** Close-up of drainage channel in Coast Live Oak Woodland upstream of percolation ponds, facing south.



**Photo 7.** Dredging/maintenance at east percolation pond, facing east.



**Photo 8.** West percolation pond in Disturbed habitat, facing east.





**Photo 9.** American Coot with three Ducklings in west percolation pond.



**Photo 10.** Mallard ducklings in percolation pond.



**Photo 11.** Red-tailed hawk nesting pair observed in Coast Live Oak Woodland on NW edge Survey Area.



**Photo 12.** Soil and natural debris stockpiles west of percolation ponds within California Sagebrush-California Buckwheat Scrub, facing east.





**Photo 13.** California Sagebrush-California Buckwheat Scrub on northern perimeter of Survey Area, facing west.



## **APPENDIX C.1**

### **California Natural Diversity Database Report**



Element_T	Scientific_I	Common_I	Element_C	Federal_St	State_Stat	CDFW_Sta	CA_Rare_F	Quad_Cod	Quad_Nan	Data_Statu	Taxonomic_Sort-esri	FieldTypeString
Animals - /	Ambystom	California	AAAAA011	Endangere	Threatene	WL	-	3412063	LOS ALAM	Mapped ai	Animals - Amphibians - Ambystomatidae - Ambystoma californiense pop. 2	
Animals - /	Ambystom	California	AAAAA011	Endangere	Threatene	WL	-	3412062	ZACA CREE	Mapped ai	Animals - Amphibians - Ambystomatidae - Ambystoma californiense pop. 2	
Animals - /	Rana boylii	foothill yel	AAABH01C	Proposed I	Endangere	-	-	3412052	SOLVANG	Mapped	Animals - Amphibians - Ranidae - Rana boylii pop. 6	
Animals - /	Rana boylii	foothill yel	AAABH01C	Proposed I	Endangere	-	-	3412042	GAVIOTA	Mapped	Animals - Amphibians - Ranidae - Rana boylii pop. 6	
Animals - /	Rana boylii	foothill yel	AAABH01C	Proposed I	Endangere	-	-	3412041	TAJIGUAS	Mapped	Animals - Amphibians - Ranidae - Rana boylii pop. 6	
Animals - /	Rana drayt	California	AAABH01C	Threatene	None	SSC	-	3412041	TAJIGUAS	Mapped	Animals - Amphibians - Ranidae - Rana draytonii	
Animals - /	Rana drayt	California	AAABH01C	Threatene	None	SSC	-	3412042	GAVIOTA	Mapped ai	Animals - Amphibians - Ranidae - Rana draytonii	
Animals - /	Rana drayt	California	AAABH01C	Threatene	None	SSC	-	3412052	SOLVANG	Mapped	Animals - Amphibians - Ranidae - Rana draytonii	
Animals - /	Rana drayt	California	AAABH01C	Threatene	None	SSC	-	3412051	SANTA YNI	Mapped	Animals - Amphibians - Ranidae - Rana draytonii	
Animals - /	Rana drayt	California	AAABH01C	Threatene	None	SSC	-	3412062	ZACA CREE	Mapped	Animals - Amphibians - Ranidae - Rana draytonii	
Animals - /	Rana drayt	California	AAABH01C	Threatene	None	SSC	-	3412063	LOS ALAM	Mapped	Animals - Amphibians - Ranidae - Rana draytonii	
Animals - /	Rana drayt	California	AAABH01C	Threatene	None	SSC	-	3412053	SANTA RO	Mapped ai	Animals - Amphibians - Ranidae - Rana draytonii	
Animals - /	Taricha tor	Coast Ran	AAAAF020	None	None	SSC	-	3412042	GAVIOTA	Mapped ai	Animals - Amphibians - Salamandridae - Taricha torosa	
Animals - /	Taricha tor	Coast Ran	AAAAF020	None	None	SSC	-	3412051	SANTA YNI	Mapped ai	Animals - Amphibians - Salamandridae - Taricha torosa	
Animals - /	Taricha tor	Coast Ran	AAAAF020	None	None	SSC	-	3412043	SACATE	Mapped ai	Animals - Amphibians - Salamandridae - Taricha torosa	
Animals - /	Taricha tor	Coast Ran	AAAAF020	None	None	SSC	-	3412041	TAJIGUAS	Unprocess	Animals - Amphibians - Salamandridae - Taricha torosa	
Animals - /	Spea hamr	western sp	AAABF020	None	None	SSC	-	3412061	LOS OLIVO	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii	
Animals - /	Spea hamr	western sp	AAABF020	None	None	SSC	-	3412063	LOS ALAM	Mapped ai	Animals - Amphibians - Scaphiopodidae - Spea hammondii	
Animals - /	Spea hamr	western sp	AAABF020	None	None	SSC	-	3412062	ZACA CREE	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii	
Animals - /	Accipiter c	Coopers h	ABNKC120	None	None	WL	-	3412063	LOS ALAM	Unprocess	Animals - Birds - Accipitridae - Accipiter cooperii	
Animals - /	Accipiter c	Coopers h	ABNKC120	None	None	WL	-	3412053	SANTA RO	Unprocess	Animals - Birds - Accipitridae - Accipiter cooperii	
Animals - /	Accipiter c	Coopers h	ABNKC120	None	None	WL	-	3412051	SANTA YNI	Mapped	Animals - Birds - Accipitridae - Accipiter cooperii	
Animals - /	Accipiter c	Coopers h	ABNKC120	None	None	WL	-	3412052	SOLVANG	Unprocess	Animals - Birds - Accipitridae - Accipiter cooperii	
Animals - /	Accipiter s	sharp-shin	ABNKC120	None	None	WL	-	3412053	SANTA RO	Unprocess	Animals - Birds - Accipitridae - Accipiter striatus	
Animals - /	Aquila chn	golden eag	ABNKC220	None	None	FP   WL	-	3412052	SOLVANG	Unprocess	Animals - Birds - Accipitridae - Aquila chrysaetos	
Animals - /	Buteo reg	ferruginou	ABNKC191	None	None	WL	-	3412052	SOLVANG	Mapped	Animals - Birds - Accipitridae - Buteo regalis	
Animals - /	Elanus leu	white-tail	ABNKC060	None	None	FP	-	3412052	SOLVANG	Unprocess	Animals - Birds - Accipitridae - Elanus leucurus	
Animals - /	Elanus leu	white-tail	ABNKC060	None	None	FP	-	3412053	SANTA RO	Unprocess	Animals - Birds - Accipitridae - Elanus leucurus	
Animals - /	Elanus leu	white-tail	ABNKC060	None	None	FP	-	3412063	LOS ALAM	Unprocess	Animals - Birds - Accipitridae - Elanus leucurus	
Animals - /	Ptychoram	Cassins aul	ABNNB08	None	None	SSC	-	3412043	SACATE	Unprocess	Animals - Birds - Alcidae - Ptychoramphus aleuticus	
Animals - /	Chaetura v	Vauxs swif	ABNUA030	None	None	SSC	-	3412052	SOLVANG	Unprocess	Animals - Birds - Apodidae - Chaetura vauxi	
Animals - /	Ardea alba	great egre	ABNGA040	None	None	-	-	3412052	SOLVANG	Unprocess	Animals - Birds - Ardeidae - Ardea alba	
Animals - /	Ardea alba	great egre	ABNGA040	None	None	-	-	3412043	SACATE	Unprocess	Animals - Birds - Ardeidae - Ardea alba	
Animals - /	Ardea herc	great blue	ABNGA040	None	None	-	-	3412043	SACATE	Unprocess	Animals - Birds - Ardeidae - Ardea herodias	
Animals - /	Ardea herc	great blue	ABNGA040	None	None	-	-	3412042	GAVIOTA	Unprocess	Animals - Birds - Ardeidae - Ardea herodias	
Animals - /	Ardea herc	great blue	ABNGA040	None	None	-	-	3412052	SOLVANG	Unprocess	Animals - Birds - Ardeidae - Ardea herodias	
Animals - /	Egretta th	snowy egr	ABNGA060	None	None	-	-	3412052	SOLVANG	Unprocess	Animals - Birds - Ardeidae - Egretta thula	
Animals - /	Charadrius	western sr	ABNNB030	Threatene	None	SSC	-	3412041	TAJIGUAS	Mapped	Animals - Birds - Charadriidae - Charadrius nivosus nivosus	
Animals - /	Falco mexi	prairie falc	ABNKD060	None	None	WL	-	3412041	TAJIGUAS	Mapped	Animals - Birds - Falconidae - Falco mexicanus	
Animals - /	Falco mexi	prairie falc	ABNKD060	None	None	WL	-	3412042	GAVIOTA	Mapped ai	Animals - Birds - Falconidae - Falco mexicanus	
Animals - /	Falco mexi	prairie falc	ABNKD060	None	None	WL	-	3412052	SOLVANG	Mapped	Animals - Birds - Falconidae - Falco mexicanus	
Animals - /	Falco mexi	prairie falc	ABNKD060	None	None	WL	-	3412051	SANTA YNI	Mapped	Animals - Birds - Falconidae - Falco mexicanus	
Animals - /	Falco pere	American	ABNKD060	Delisted	Delisted	FP	-	3412053	SANTA RO	Unprocess	Animals - Birds - Falconidae - Falco peregrinus anatum	
Animals - /	Spinus law	Lawrences	ABPB061	None	None	-	-	3412052	SOLVANG	Unprocess	Animals - Birds - Fringillidae - Spinus lawrencei	
Animals - /	Gavia imm	common lc	ABNBA01C	None	None	SSC	-	3412042	GAVIOTA	Unprocess	Animals - Birds - Gaviidae - Gavia immer	
Animals - /	Gavia imm	common lc	ABNBA01C	None	None	SSC	-	3412043	SACATE	Unprocess	Animals - Birds - Gaviidae - Gavia immer	
Animals - /	Gavia imm	common lc	ABNBA01C	None	None	SSC	-	3412041	TAJIGUAS	Unprocess	Animals - Birds - Gaviidae - Gavia immer	
Animals - /	Progne sub	purple mai	ABPAU01C	None	None	SSC	-	3412051	SANTA YNI	Mapped	Animals - Birds - Hirundinidae - Progne subis	
Animals - /	Progne sub	purple mai	ABPAU01C	None	None	SSC	-	3412052	SOLVANG	Mapped ai	Animals - Birds - Hirundinidae - Progne subis	
Animals - /	Progne sub	purple mai	ABPAU01C	None	None	SSC	-	3412061	LOS OLIVO	Mapped	Animals - Birds - Hirundinidae - Progne subis	
Animals - /	Hydrobate	ashy storm	ABNDC040	None	None	SSC	-	3412042	GAVIOTA	Unprocess	Animals - Birds - Hydrobatidae - Hydrobatidae homochroa	
Animals - /	Agelaius tr	tricolored	ABPBX000	Threatene	SSC	-	-	3412061	LOS OLIVO	Mapped	Animals - Birds - Icteridae - Agelaius tricolor	
Animals - /	Agelaius tr	tricolored	ABPBX000	Threatene	SSC	-	-	3412063	LOS ALAM	Mapped	Animals - Birds - Icteridae - Agelaius tricolor	
Animals - /	Xanthoceph	yellow-hez	ABPBX030	None	None	SSC	-	3412052	SOLVANG	Unprocess	Animals - Birds - Icteridae - Xanthocephalus xanthocephalus	
Animals - /	Icteria vire	yellow-bre	ABPBX040	None	None	SSC	-	3412052	SOLVANG	Unprocess	Animals - Birds - Icteridae - Icteria virens	
Animals - /	Hydroprog	Caspian te	ABNNM08	None	None	-	-	3412042	GAVIOTA	Unprocess	Animals - Birds - Laridae - Hydroprogne caspia	
Animals - /	Hydroprog	Caspian te	ABNNM08	None	None	-	-	3412043	SACATE	Unprocess	Animals - Birds - Laridae - Hydroprogne caspia	
Animals - /	Hydroprog	Caspian te	ABNNM08	None	None	-	-	3412041	TAJIGUAS	Unprocess	Animals - Birds - Laridae - Hydroprogne caspia	
Animals - /	Larus calif	California	ABNNM03	None	None	WL	-	3412041	TAJIGUAS	Unprocess	Animals - Birds - Laridae - Larus californicus	
Animals - /	Larus calif	California	ABNNM03	None	None	WL	-	3412043	SACATE	Unprocess	Animals - Birds - Laridae - Larus californicus	
Animals - /	Larus calif	California	ABNNM03	None	None	WL	-	3412042	GAVIOTA	Unprocess	Animals - Birds - Laridae - Larus californicus	
Animals - /	Thalasseus	elegant ter	ABNNM08	None	None	WL	-	3412042	GAVIOTA	Unprocess	Animals - Birds - Laridae - Thalasseus elegans	
Animals - /	Thalasseus	elegant ter	ABNNM08	None	None	WL	-	3412043	SACATE	Unprocess	Animals - Birds - Laridae - Thalasseus elegans	
Animals - /	Setophaga	yellow war	ABPBX030	None	None	SSC	-	3412052	SOLVANG	Unprocess	Animals - Birds - Parulidae - Setophaga petechia	
Animals - /	Setophaga	yellow war	ABPBX030	None	None	SSC	-	3412051	SANTA YNI	Unprocess	Animals - Birds - Parulidae - Setophaga petechia	
Animals - /	Aimophila	southern C	ABPBX910	None	None	WL	-	3412042	GAVIOTA	Mapped ai	Animals - Birds - Passerellidae - Aimophila ruficeps canescens	
Animals - /	Pelecanus	California	ABNFC010	Delisted	Delisted	FP	-	3412042	GAVIOTA	Unprocess	Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus	
Animals - /	Pelecanus	California	ABNFC010	Delisted	Delisted	FP	-	3412043	SACATE	Unprocess	Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus	
Animals - /	Pelecanus	California	ABNFC010	Delisted	Delisted	FP	-	3412041	TAJIGUAS	Mapped ai	Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus	
Animals - /	Nannopter	double-cre	ABNFD01C	None	None	WL	-	3412041	TAJIGUAS	Unprocess	Animals - Birds - Phalacrocoracidae - Nannopterum auritum	
Animals - /	Nannopter	double-cre	ABNFD01C	None	None	WL	-	3412043	SACATE	Unprocess	Animals - Birds - Phalacrocoracidae - Nannopterum auritum	
Animals - /	Nannopter	double-cre	ABNFD01C	None	None	WL	-	3412042	GAVIOTA	Unprocess	Animals - Birds - Phalacrocoracidae - Nannopterum auritum	
Animals - /	Athene cui	burrowing	ABNSB100	None	None	SSC	-	3412063	LOS ALAM	Unprocess	Animals - Birds - Strigidae - Athene cunicularia	
Animals - /	Strix occid	California	ABNSB120	None	None	SSC	-	3412051	SANTA YNI	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis	
Animals - /	Strix occid	California	ABNSB120	None	None	SSC	-	3412052	SOLVANG	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis	
Animals - /	Contopus	olive-sided	ABPAE320	None	None	SSC	-	3412051	SANTA YNI	Unprocess	Animals - Birds - Tyrannidae - Contopus cooperi	
Animals - /	Empidonax	willow flyc	ABPAE330	None	Endangere	-	-	3412052	SOLVANG	Unprocess	Animals - Birds - Tyrannidae - Empidonax traillii	
Animals - /	Empidonax	southwest	ABPAE330	Endangere	Endangere	-	-	3412052	SOLVANG	Mapped ai	Animals - Birds - Tyrannidae - Empidonax traillii extimus	
Animals - /	Vireo bellii	least Bells	ABPBW01	Endangere	Endangere	-	-	3412052	SOLVANG	Mapped ai	Animals - Birds - Vireonidae - Vireo bellii pusillus	
Animals - /	Gasteroste	unarmore	AFCPA030	Endangere	Endangere	FP	-	3412063	LOS ALAM	Mapped	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni	
Animals - /	Eucyclogot	tidewater	AFCON040	Endangere	None	-	-	3412042	GAVIOTA	Mapped ai	Animals - Fish - Gobiidae - Eucyclogobius newberryi	

Animals - F Eucyclogot tidewater   AFCQN04C Endangere	None	-	-	3412043 SACATE	Mapped ai	Animals - Fish - Gobiidae - Eucyclogobius newberryi
Animals - F Eucyclogot tidewater   AFCQN04C Endangere	None	-	-	3412041 TAJIGUAS	Mapped ai	Animals - Fish - Gobiidae - Eucyclogobius newberryi
Animals - F Oncorhync steelhead - AFCHA020 Endangere	Candidate	-	-	3412041 TAJIGUAS	Unprocess	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - F Oncorhync steelhead - AFCHA020 Endangere	Candidate	-	-	3412043 SACATE	Unprocess	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - F Oncorhync steelhead - AFCHA020 Endangere	Candidate	-	-	3412042 GAVIOTA	Mapped ai	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - F Oncorhync steelhead - AFCHA020 Endangere	Candidate	-	-	3412062 ZACA CREE	Unprocess	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - F Oncorhync steelhead - AFCHA020 Endangere	Candidate	-	-	3412061 LOS OLIVO	Unprocess	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - F Oncorhync steelhead - AFCHA020 Endangere	Candidate	-	-	3412053 SANTA RO	Mapped ai	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - F Oncorhync steelhead - AFCHA020 Endangere	Candidate	-	-	3412051 SANTA YNI	Mapped ai	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - F Oncorhync steelhead - AFCHA020 Endangere	Candidate	-	-	3412052 SOLVANG	Mapped ai	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - I Bombus ca obscure bl IIHYM243f	None	-	-	3412053 SANTA RO	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - I Bombus ca obscure bl IIHYM243f	None	-	-	3412061 LOS OLIVO	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - I Bombus cr Crotch bur IIHYM244f	None	-	-	3412061 LOS OLIVO	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - I Bombus cr Crotch bur IIHYM244f	None	-	-	3412051 SANTA YNI	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - I Bombus cr Crotch bur IIHYM244f	None	-	-	3412042 GAVIOTA	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - I Danaus ple monarch - IILEPP201i	Candidate	None	-	3412042 GAVIOTA	Mapped ai	Animals - Insects - Nymphalidae - Danaus plexippus plexippus pop. 1
Animals - I Danaus ple monarch - IILEPP201i	Candidate	None	-	3412041 TAJIGUAS	Mapped ai	Animals - Insects - Nymphalidae - Danaus plexippus plexippus pop. 1
Animals - I Danaus ple monarch - IILEPP201i	Candidate	None	-	3412043 SACATE	Mapped ai	Animals - Insects - Nymphalidae - Danaus plexippus plexippus pop. 1
Animals - I Neotoma l San Diego AMAFF08f	None	None	SSC	3412043 SACATE	Unprocess	Animals - Mammals - Cricetidae - Neotoma lepida intermedia
Animals - I Neotoma l San Diego AMAFF08f	None	None	SSC	3412042 GAVIOTA	Mapped	Animals - Mammals - Cricetidae - Neotoma lepida intermedia
Animals - I Neotoma l San Diego AMAFF08f	None	None	SSC	3412041 TAJIGUAS	Mapped	Animals - Mammals - Cricetidae - Neotoma lepida intermedia
Animals - I Dipodomys Lompoc ka AMAFD03f	None	None	-	3412052 SOLVANG	Unprocess	Animals - Mammals - Heteromyidae - Dipodomys heermanni arenae
Animals - I Nyctinomc pocketed f AMACD04f	None	None	SSC	3412041 TAJIGUAS	Unprocess	Animals - Mammals - Molossidae - Nyctinomops femorosaccus
Animals - I Enhydra lu southern s AMAJF090	Threatene	None	FP	3412043 SACATE	Unprocess	Animals - Mammals - Mustelidae - Enhydra lutris nereis
Animals - I Taxidea ta: American l AMAJF040	None	None	SSC	3412043 SACATE	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - I Taxidea ta: American l AMAJF040	None	None	SSC	3412042 GAVIOTA	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - I Taxidea ta: American l AMAJF040	None	None	SSC	3412041 TAJIGUAS	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - I Taxidea ta: American l AMAJF040	None	None	SSC	3412052 SOLVANG	Mapped ai	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - I Taxidea ta: American l AMAJF040	None	None	SSC	3412051 SANTA YNI	Unprocess	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - I Taxidea ta: American l AMAJF040	None	None	SSC	3412062 ZACA CREE	Mapped ai	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - I Taxidea ta: American l AMAJF040	None	None	SSC	3412061 LOS OLIVO	Unprocess	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - I Taxidea ta: American l AMAJF040	None	None	SSC	3412063 LOS ALAM	Mapped ai	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - I Bassariscu: southern C AMAJE010	None	None	FP	3412052 SOLVANG	Unprocess	Animals - Mammals - Procyonidae - Bassariscus astutus octavus
Animals - I Bassariscu: southern C AMAJE010	None	None	FP	3412042 GAVIOTA	Unprocess	Animals - Mammals - Procyonidae - Bassariscus astutus octavus
Animals - I Antrozous pallid bat AMACCC10f	None	None	SSC	3412043 SACATE	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - I Antrozous pallid bat AMACCC10f	None	None	SSC	3412052 SOLVANG	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - I Corynorhir Townsend: AMACCC08f	None	None	SSC	3412051 SANTA YNI	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - I Corynorhir Townsend: AMACCC08f	None	None	SSC	3412062 ZACA CREE	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - I Lasionyctes silver-hairf AMACCC02f	None	None	-	3412052 SOLVANG	Unprocess	Animals - Mammals - Vespertilionidae - Lasionycteris noctivagans
Animals - I Myotis yur Yuma ym AMACCC01f	None	None	-	3412052 SOLVANG	Unprocess	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - F Anniella pl Northern C ARACC010	None	None	SSC	3412052 SOLVANG	Mapped	Animals - Reptiles - Anniellidae - Anniella pulchra
Animals - F Anniella pl Northern C ARACC010	None	None	SSC	3412053 SANTA RO	Mapped	Animals - Reptiles - Anniellidae - Anniella pulchra
Animals - F Anniella pl Northern C ARACC010	None	None	SSC	3412063 LOS ALAM	Mapped	Animals - Reptiles - Anniellidae - Anniella pulchra
Animals - F Anniella pl Northern C ARACC010	None	None	SSC	3412061 LOS OLIVO	Mapped	Animals - Reptiles - Anniellidae - Anniella pulchra
Animals - F Anniella pl Northern C ARACC010	None	None	SSC	3412062 ZACA CREE	Mapped	Animals - Reptiles - Anniellidae - Anniella pulchra
Animals - F Salvadoria coast patcl ARADB30C	None	None	SSC	3412061 LOS OLIVO	Unprocess	Animals - Reptiles - Colubridae - Salvadoria hexalepis virgulata
Animals - F Emys marr western pr ARAAD02C	None	None	SSC	3412062 ZACA CREE	Unprocess	Animals - Reptiles - Emydidae - Emys marmorata
Animals - F Emys marr western pr ARAAD02C	None	None	SSC	3412053 SANTA RO	Unprocess	Animals - Reptiles - Emydidae - Emys marmorata
Animals - F Emys marr western pr ARAAD02C	None	None	SSC	3412063 LOS ALAM	Unprocess	Animals - Reptiles - Emydidae - Emys marmorata
Animals - F Emys marr western pr ARAAD02C	None	None	SSC	3412051 SANTA YNI	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - F Emys marr western pr ARAAD02C	None	None	SSC	3412052 SOLVANG	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - F Emys marr western pr ARAAD02C	None	None	SSC	3412042 GAVIOTA	Mapped ai	Animals - Reptiles - Emydidae - Emys marmorata
Animals - F Emys marr western pr ARAAD02C	None	None	SSC	3412043 SACATE	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - F Emys marr western pr ARAAD02C	None	None	SSC	3412041 TAJIGUAS	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - F Thamnoph two-stripef ARADB361	None	None	SSC	3412043 SACATE	Unprocess	Animals - Reptiles - Natricidae - Thamnophis hammondi
Animals - F Thamnoph two-stripef ARADB361	None	None	SSC	3412042 GAVIOTA	Mapped ai	Animals - Reptiles - Natricidae - Thamnophis hammondi
Animals - F Thamnoph two-stripef ARADB361	None	None	SSC	3412051 SANTA YNI	Mapped	Animals - Reptiles - Natricidae - Thamnophis hammondi
Animals - F Thamnoph two-stripef ARADB361	None	None	SSC	3412052 SOLVANG	Mapped	Animals - Reptiles - Natricidae - Thamnophis hammondi
Animals - F Thamnoph two-stripef ARADB361	None	None	SSC	3412053 SANTA RO	Unprocess	Animals - Reptiles - Natricidae - Thamnophis hammondi
Animals - F Thamnoph two-stripef ARADB361	None	None	SSC	3412061 LOS OLIVO	Mapped ai	Animals - Reptiles - Natricidae - Thamnophis hammondi
Animals - F Phrynosom coast horn ARACF121	None	None	SSC	3412062 ZACA CREE	Unprocess	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - F Phrynosom coast horn ARACF121	None	None	SSC	3412063 LOS ALAM	Unprocess	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - F Phrynosom coast horn ARACF121	None	None	SSC	3412051 SANTA YNI	Mapped	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Communit Southern C Southern C CARE2310	None	None	-	3412052 SOLVANG	Mapped	Community - Aquatic - Southern California Steelhead Stream
Communit Southern C Southern C CARE2310	None	None	-	3412053 SANTA RO	Mapped	Community - Aquatic - Southern California Steelhead Stream
Communit Southern C Southern C CARE2310	None	None	-	3412051 SANTA YNI	Mapped	Community - Aquatic - Southern California Steelhead Stream
Communit Southern C Southern C CTT61310f	None	None	-	3412051 SANTA YNI	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Communit Southern C Southern C CTT61310f	None	None	-	3412052 SOLVANG	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Communit Southern C Southern C CTT61330f	None	None	-	3412052 SOLVANG	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Communit Southern C Southern C CTT61330f	None	None	-	3412053 SANTA RO	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Communit Southern C Southern C CTT61330f	None	None	-	3412051 SANTA YNI	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Communit Southern \ Southern \ CTT44300f	None	None	-	3412051 SANTA YNI	Mapped	Community - Terrestrial - Southern Vernal Pool
Communit Southern \ Southern \ CTT44300f	None	None	-	3412062 ZACA CREE	Mapped	Community - Terrestrial - Southern Vernal Pool
Communit Southern \ Southern \ CTT63320f	None	None	-	3412053 SANTA RO	Mapped	Community - Terrestrial - Southern Willow Scrub
Communit Southern \ Southern \ CTT63320f	None	None	-	3412052 SOLVANG	Mapped	Community - Terrestrial - Southern Willow Scrub
Communit Southern \ Southern \ CTT63320f	None	None	-	3412051 SANTA YNI	Mapped	Community - Terrestrial - Southern Willow Scrub
Communit Valley Nee Valley Nee CTT42110f	None	None	-	3412042 GAVIOTA	Mapped	Community - Terrestrial - Valley Needlegrass Grassland
Plants - Va Ancistroca Santa Ynez PDASTD50	None	None	-	3412053 SANTA RO	Mapped	Plants - Vascular - Asteraceae - Ancistrocarphus keilii
Plants - Va Ancistroca Santa Ynez PDASTD50	None	None	18.1	3412063 LOS ALAM	Mapped	Plants - Vascular - Asteraceae - Ancistrocarphus keilii
Plants - Va Baccharis pl Plummers PDAST0Wf	None	None	-	3412042 GAVIOTA	Unprocess	Plants - Vascular - Asteraceae - Baccharis plummerae ssp. plummerae
Plants - Va Cirsium sc: La Gracios: PDAST2E1f	Endangere	Threatene	18.1	3412063 LOS ALAM	Mapped	Plants - Vascular - Asteraceae - Cirsium scariosum var. Ioncholepis
Plants - Va Deinandra Gaviota ta: PDAST4R0f	Endangere	Endangere	18.1	3412042 GAVIOTA	Mapped ai	Plants - Vascular - Asteraceae - Deinandra increscens ssp. villosa

Plants - Va Deinandra Gaviota tai PDAST4R0	Endangere	Endangere	-	1B.1	3412043	SACATE	Mapped	Plants - Vascular - Asteraceae - Deinandra increscens ssp. villosa
Plants - Va Deinandra paniculate PDAST4R0	None	None	-	4.2	3412051	SANTA YNI	Unprocess	Plants - Vascular - Asteraceae - Deinandra paniculata
Plants - Va Deinandra paniculate PDAST4R0	None	None	-	4.2	3412063	LOS ALAM	Unprocess	Plants - Vascular - Asteraceae - Deinandra paniculata
Plants - Va Deinandra paniculate PDAST4R0	None	None	-	4.2	3412062	ZACA CREE	Unprocess	Plants - Vascular - Asteraceae - Deinandra paniculata
Plants - Va Erigeron s; saints dais; PDAST3M; None	None	None	-	4.2	3412043	SACATE	Unprocess	Plants - Vascular - Asteraceae - Erigeron sanctarum
Plants - Va Lasthenia j Coulters gr PDAST5L0	None	None	-	1B.1	3412051	SANTA YNI	Mapped	Plants - Vascular - Asteraceae - Lasthenia glabrata ssp. coulteri
Plants - Va Senecio ap chaparral r PDAST8H0	None	None	-	2B.2	3412051	SANTA YNI	Mapped	Plants - Vascular - Asteraceae - Senecio aphanactis
Plants - Va Senecio ap chaparral r PDAST8H0	None	None	-	2B.2	3412043	SACATE	Mapped	Plants - Vascular - Asteraceae - Senecio aphanactis
Plants - Va Amsinckia Douglas fic PDBOR01C	None	None	-	4.2	3412062	ZACA CREE	Unprocess	Plants - Vascular - Boraginaceae - Amsinckia douglasiana
Plants - Va Caulanthu: Santa Barb PDBRA00M	None	None	-	1B.1	3412061	LOS OLIVO	Mapped	Plants - Vascular - Brassicaceae - Caulanthus amplexicaulis var. barbarae
Plants - Va Erysimum San Luis OI PDBRA160	None	None	-	4.2	3412061	LOS OLIVO	Unprocess	Plants - Vascular - Brassicaceae - Erysimum capitatum var. lompocense
Plants - Va Erysimum San Luis OI PDBRA160	None	None	-	4.2	3412062	ZACA CREE	Unprocess	Plants - Vascular - Brassicaceae - Erysimum capitatum var. lompocense
Plants - Va Erysimum San Luis OI PDBRA160	None	None	-	4.2	3412063	LOS ALAM	Unprocess	Plants - Vascular - Brassicaceae - Erysimum capitatum var. lompocense
Plants - Va Erysimum San Luis OI PDBRA160	None	None	-	4.2	3412052	SOLVANG	Unprocess	Plants - Vascular - Brassicaceae - Erysimum capitatum var. lompocense
Plants - Va Erysimum suffrutesc PDBRA160	None	None	-	4.2	3412043	SACATE	Unprocess	Plants - Vascular - Brassicaceae - Erysimum suffrutescens
Plants - Va Erysimum suffrutesc PDBRA160	None	None	-	4.2	3412042	GAVIOTA	Unprocess	Plants - Vascular - Brassicaceae - Erysimum suffrutescens
Plants - Va Lonicer a s; Santa Barb PDCPR030	None	None	-	1B.2	3412042	GAVIOTA	Mapped	Plants - Vascular - Caprifoliaceae - Lonicer a subspicata var. subspicata
Plants - Va Lonicer a s; Santa Barb PDCPR030	None	None	-	1B.2	3412041	TAJIGUAS	Mapped	Plants - Vascular - Caprifoliaceae - Lonicer a subspicata var. subspicata
Plants - Va Lonicer a s; Santa Barb PDCPR030	None	None	-	1B.2	3412051	SANTA YNI	Mapped	Plants - Vascular - Caprifoliaceae - Lonicer a subspicata var. subspicata
Plants - Va Lonicer a s; Santa Barb PDCPR030	None	None	-	1B.2	3412061	LOS OLIVO	Mapped	Plants - Vascular - Caprifoliaceae - Lonicer a subspicata var. subspicata
Plants - Va Atriplex se Davidsons PDCH041	None	None	-	1B.2	3412062	ZACA CREE	Mapped	Plants - Vascular - Chenopodiaceae - Atriplex serenana var. davidsonii
Plants - Va Atriplex se Davidsons PDCH041	None	None	-	1B.2	3412042	GAVIOTA	Mapped	Plants - Vascular - Chenopodiaceae - Atriplex serenana var. davidsonii
Plants - Va Calystegia South Coa: PDCON04C	None	None	-	4.3	3412061	LOS OLIVO	Unprocess	Plants - Vascular - Convolvulaceae - Calystegia collina ssp. venusta
Plants - Va Convolvul: small-flow: PDCON05C	None	None	-	4.2	3412061	LOS OLIVO	Unprocess	Plants - Vascular - Convolvulaceae - Convolvulus simulans
Plants - Va Cladium c; California : PMCYPO4C	None	None	-	2B.2	3412063	LOS ALAM	Mapped	Plants - Vascular - Cyperaceae - Cladium californicum
Plants - Va Arctostaph l La Purisim: PDERI041F	None	None	-	1B.1	3412063	LOS ALAM	Mapped	Arctostaphylos purissima
Plants - Va Arctostaph l La Purisim: PDERI041F	None	None	-	1B.1	3412052	SOLVANG	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos purissima
Plants - Va Arctostaph l La Purisim: PDERI041F	None	None	-	1B.1	3412053	SANTA RO	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos purissima
Plants - Va Arctostaph l La Purisim: PDERI041F	None	None	-	1B.1	3412043	SACATE	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos purissima
Plants - Va Arctostaph Refugio m: PDERI041E	None	None	-	1B.2	3412043	SACATE	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos refugioensis
Plants - Va Arctostaph Refugio m: PDERI041E	None	None	-	1B.2	3412051	SANTA YNI	Mapped	Arctostaphylos refugioensis
Plants - Va Arctostaph Refugio m: PDERI041E	None	None	-	1B.2	3412042	GAVIOTA	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos refugioensis
Plants - Va Arctostaph Refugio m: PDERI041E	None	None	-	1B.2	3412053	SANTA RO	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos refugioensis
Plants - Va Arctostaph Refugio m: PDERI041E	None	None	-	1B.2	3412052	SOLVANG	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos refugioensis
Plants - Va Arctostaph sand mesa PDERI041E	None	None	-	1B.2	3412063	LOS ALAM	Mapped	Arctostaphylos rudis
Plants - Va Astragalus Miles milk: PDFAB0F2	None	None	-	1B.2	3412062	ZACA CREE	Mapped	Plants - Vascular - Fabaceae - Astragalus didymocarpus var. milesianus
Plants - Va Astragalus Miles milk: PDFAB0F2	None	None	-	1B.2	3412042	GAVIOTA	Mapped	Plants - Vascular - Fabaceae - Astragalus didymocarpus var. milesianus
Plants - Va Thermopsi Santa Ynez PDFAB3Z0	None	Rare	-	1B.3	3412051	SANTA YNI	Mapped	Arctostaphylos macrophylla
Plants - Va Ribes ama: Hoffmann: PDGRO02C	None	None	-	3	3412051	SANTA YNI	Unprocess	Plants - Vascular - Grossulariaceae - Ribes amarum var. hoffmannii
Plants - Va Juglans cal southern C PDJUG020	None	None	-	4.2	3412051	SANTA YNI	Unprocess	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Va Juglans cal southern C PDJUG020	None	None	-	4.2	3412063	LOS ALAM	Unprocess	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Va Juglans cal southern C PDJUG020	None	None	-	4.2	3412052	SOLVANG	Unprocess	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Va Juglans cal southern C PDJUG020	None	None	-	4.2	3412053	SANTA RO	Unprocess	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Va Clinopodiu monkey-flr PDLAM1T0C	None	None	-	4.2	3412061	LOS OLIVO	Unprocess	Plants - Vascular - Lamiaceae - Clinopodium mimuloides
Plants - Va Monardell. white-vein PDLAM18C	None	None	-	1B.3	3412053	SANTA RO	Mapped	Plants - Vascular - Lamiaceae - Monardella hypoleuca ssp. hypoleuca
Plants - Va Monardell. white-vein PDLAM18C	None	None	-	1B.3	3412052	SOLVANG	Mapped	Plants - Vascular - Lamiaceae - Monardella hypoleuca ssp. hypoleuca
Plants - Va Monardell. white-vein PDLAM18C	None	None	-	1B.3	3412051	SANTA YNI	Mapped	Plants - Vascular - Lamiaceae - Monardella hypoleuca ssp. hypoleuca
Plants - Va Monardell. white-vein PDLAM18C	None	None	-	1B.3	3412041	TAJIGUAS	Mapped	Plants - Vascular - Lamiaceae - Monardella hypoleuca ssp. hypoleuca
Plants - Va Monardell. southern c PDLAM18C	None	None	-	1B.2	3412062	ZACA CREE	Mapped	Plants - Vascular - Lamiaceae - Monardella sinuata ssp. sinuata
Plants - Va Monardell. southern c PDLAM18C	None	None	-	1B.2	3412063	LOS ALAM	Mapped	Plants - Vascular - Lamiaceae - Monardella sinuata ssp. sinuata
Plants - Va Calochortu Catalina m PMLIL0D0C	None	None	-	4.2	3412061	LOS OLIVO	Unprocess	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Va Calochortu Catalina m PMLIL0D0C	None	None	-	4.2	3412052	SOLVANG	Unprocess	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Va Calochortu Catalina m PMLIL0D0C	None	None	-	4.2	3412042	GAVIOTA	Unprocess	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Va Calochortu Catalina m PMLIL0D0C	None	None	-	4.2	3412051	SANTA YNI	Unprocess	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Va Calochortu Catalina m PMLIL0D0C	None	None	-	4.2	3412043	SACATE	Unprocess	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Va Calochortu. club-hairex PMLIL0D0C	None	None	-	4.3	3412061	LOS OLIVO	Unprocess	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Va Calochortu. late-flower PMLIL0D1	None	None	-	1B.3	3412052	SOLVANG	Mapped	Plants - Vascular - Liliaceae - Calochortus fimbriatus
Plants - Va Calochortu. late-flower PMLIL0D1	None	None	-	1B.3	3412053	SANTA RO	Mapped	Arctostaphylos fimbriatus
Plants - Va Calochortu. late-flower PMLIL0D1	None	None	-	1B.3	3412043	SACATE	Mapped	Plants - Vascular - Liliaceae - Calochortus fimbriatus
Plants - Va Calochortu. late-flower PMLIL0D1	None	None	-	1B.3	3412051	SANTA YNI	Mapped	Plants - Vascular - Liliaceae - Calochortus fimbriatus
Plants - Va Fritillaria o Ojai fritilla PMLILOV0F	None	None	-	1B.2	3412051	SANTA YNI	Mapped	Plants - Vascular - Liliaceae - Fritillaria ojaiensis
Plants - Va Fritillaria o Ojai fritilla PMLILOV0F	None	None	-	1B.2	3412052	SOLVANG	Mapped	Plants - Vascular - Liliaceae - Fritillaria ojaiensis
Plants - Va Lilium hurr Humboldt PMLIL1A0C	None	None	-	4.2	3412053	SANTA RO	Unprocess	Plants - Vascular - Liliaceae - Lilium humboldtii ssp. humboldtii
Plants - Va Calandrinia: Brewers c PDPOR01C	None	None	-	4.2	3412051	SANTA YNI	Unprocess	Plants - Vascular - Montiaceae - Calandrinia breweri
Plants - Va Eriodictyor Lompoc ye PDHYD04C	Endangere	Rare	-	1B.2	3412043	SACATE	Mapped	Plants - Vascular - Namaceae - Eriodictyon capitatum
Plants - Va Eriodictyor Lompoc ye PDHYD04C	Endangere	Rare	-	1B.2	3412053	SANTA RO	Mapped	Plants - Vascular - Namaceae - Eriodictyon capitatum
Plants - Va Cordylanth seaside bir PDCR0J0F	None	Endangere	-	1B.1	3412053	SANTA RO	Mapped	Plants - Vascular - Orobanchaceae - Cordylanthus rigidus ssp. littoralis
Plants - Va Cordylanth seaside bir PDCR0J0F	None	Endangere	-	1B.1	3412063	LOS ALAM	Mapped	Plants - Vascular - Orobanchaceae - Cordylanthus rigidus ssp. littoralis
Plants - Va Cordylanth seaside bir PDCR0J0F	None	Endangere	-	1B.1	3412051	SANTA YNI	Mapped	Plants - Vascular - Orobanchaceae - Cordylanthus rigidus ssp. littoralis
Plants - Va Diplacus v; Vandenbei PDCR1B3	Endangere	None	-	1B.1	3412063	LOS ALAM	Mapped	Plants - Vascular - Phrymaceae - Diplacus vandenbergensis
Plants - Va Agrostis hc Hoovers b; PMPOA04C	None	None	-	1B.2	3412061	LOS OLIVO	Mapped	Plants - Vascular - Poaceae - Agrostis hooveri
Plants - Va Agrostis hc Hoovers b; PMPOA04C	None	None	-	1B.2	3412062	ZACA CREE	Mapped	Plants - Vascular - Poaceae - Agrostis hooveri
Plants - Va Muhlenbei aparejo gr: PMPOA48	None	None	-	2B.2	3412063	LOS ALAM	Mapped	Plants - Vascular - Poaceae - Muhlenbergia utilis
Plants - Va Polygala c; Fishs milkv PDGLO20	None	None	-	4.3	3412053	SANTA RO	Unprocess	Plants - Vascular - Polygalaceae - Polygala cornuta var. fishiae
Plants - Va Polygala c; Fishs milkv PDGLO20	None	None	-	4.3	3412051	SANTA YNI	Unprocess	Plants - Vascular - Polygalaceae - Polygala cornuta var. fishiae
Plants - Va Mucronea California : PDPGN0FC	None	None	-	4.2	3412063	LOS ALAM	Unprocess	Plants - Vascular - Polygonaceae - Mucronea californica
Plants - Va Mucronea California : PDPGN0FC	None	None	-	4.2	3412062	ZACA CREE	Unprocess	Plants - Vascular - Polygonaceae - Mucronea californica
Plants - Va Delphinium dune lark; PDRANOB1	None	None	-	1B.2	3412063	LOS ALAM	Mapped	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. blochmaniae
Plants - Va Delphinium umbrell a l; PDRANOB1	None	None	-	1B.3	3412061	LOS OLIVO	Mapped	Plants - Vascular - Ranunculaceae - Delphinium umbraculorum
Plants - Va Delphinium umbrell a l; PDRANOB1	None	None	-	1B.3	3412053	SANTA RO	Mapped	Plants - Vascular - Ranunculaceae - Delphinium umbraculorum
Plants - Va Delphinium umbrell a l; PDRANOB1	None	None	-	1B.3	3412051	SANTA YNI	Mapped	Plants - Vascular - Ranunculaceae - Delphinium umbraculorum
Plants - Va Ceanothus Lompoc ce PDRHA04C	None	None	-	4.2	3412052	SOLVANG	Unprocess	Plants - Vascular - Rhamnaceae - Ceanothus cuneatus var. fascicularis


Plants - Va Ceanothus Lompoc ce PDRHA04C	None	-	4.2	3412062	ZACA CREE Unprocess	Plants - Vascular - Rhamnaceae - Ceanothus cuneatus var. fascicularis
Plants - Va Ceanothus Lompoc ce PDRHA04C	None	-	4.2	3412063	LOS ALAM Unprocess	Plants - Vascular - Rhamnaceae - Ceanothus cuneatus var. fascicularis
Plants - Va Ceanothus Santa Barb PDRHA04C	None	-	18.2	3412063	LOS ALAM Mapped at	Plants - Vascular - Rhamnaceae - Ceanothus impressus var. impressus
Plants - Va Horkelia ci mesa hork PDROSOW	None	-	18.1	3412063	LOS ALAM Mapped	Plants - Vascular - Rosaceae - Horkelia cuneata var. puberula
Plants - Va Horkelia ci mesa hork PDROSOW	None	-	18.1	3412062	ZACA CREE Mapped	Plants - Vascular - Rosaceae - Horkelia cuneata var. puberula
Plants - Va Horkelia ci mesa hork PDROSOW	None	-	18.1	3412052	SOLVANG Mapped	Plants - Vascular - Rosaceae - Horkelia cuneata var. puberula
Plants - Va Horkelia ci mesa hork PDROSOW	None	-	18.1	3412053	SANTA RO Mapped	Plants - Vascular - Rosaceae - Horkelia cuneata var. puberula
Plants - Va Horkelia ci mesa hork PDROSOW	None	-	18.1	3412043	SACATE Mapped	Plants - Vascular - Rosaceae - Horkelia cuneata var. puberula
Plants - Va Horkelia ci mesa hork PDROSOW	None	-	18.1	3412042	GAVIOTA Mapped	Plants - Vascular - Rosaceae - Horkelia cuneata var. puberula
Plants - Va Horkelia ci Kelloggs h PDROSOW	None	-	18.1	3412043	SACATE Mapped	Plants - Vascular - Rosaceae - Horkelia cuneata var. sericea
Plants - Va Horkelia ci Kelloggs h PDROSOW	None	-	18.1	3412053	SANTA RO Mapped at	Plants - Vascular - Rosaceae - Horkelia cuneata var. sericea
Plants - Va Galium cliff Santa Barb PDRUBON	None	-	4.3	3412051	SANTA YNI Unprocess	Plants - Vascular - Rubiaceae - Galium cliftonsmithii
Plants - Va Scrophular black-flow PDSCR1S0	None	-	18.2	3412042	GAVIOTA Mapped	Plants - Vascular - Scrophulariaceae - Scrophularia atrata
Plants - Va Scrophular black-flow PDSCR1S0	None	-	18.2	3412041	TAJIGUAS Mapped	Plants - Vascular - Scrophulariaceae - Scrophularia atrata
Plants - Va Scrophular black-flow PDSCR1S0	None	-	18.2	3412053	SANTA RO Mapped	Plants - Vascular - Scrophulariaceae - Scrophularia atrata
Plants - Va Scrophular black-flow PDSCR1S0	None	-	18.2	3412052	SOLVANG Mapped	Plants - Vascular - Scrophulariaceae - Scrophularia atrata
Plants - Va Scrophular black-flow PDSCR1S0	None	-	18.2	3412063	LOS ALAM Mapped	Plants - Vascular - Scrophulariaceae - Scrophularia atrata
Plants - Va Thelypteris Sonoran m PPTHE051	None	-	28.2	3412041	TAJIGUAS Mapped	Plants - Vascular - Thelypteridaceae - Thelypteris puberula var. sonorensis
Plants - Va Thelypteris Sonoran m PPTHE051	None	-	28.2	3412042	GAVIOTA Mapped	Plants - Vascular - Thelypteridaceae - Thelypteris puberula var. sonorensis
Plants - Va Thelypteris Sonoran m PPTHE051	None	-	28.2	3412051	SANTA YNI Mapped	Plants - Vascular - Thelypteridaceae - Thelypteris puberula var. sonorensis



## APPENDIX C.2


eBird Report

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 [Year-round, All years](#) ▼

# Hans Christian Andersen Park

[Santa Barbara County, California](#),  
[\(/region/US-CA-083?yr=all&m=\)](#)  
[California](#),  
[\(/region/US-CA?yr=all&m=\)](#)  
[US](#) [\(/region/US?yr=all&m=\)](#)

 [Map\(/hotspots?hs=L5611537&yr=all&m=\)](#)

 [Directions\(https://www.google.com/maps/search/?api=1&query=34.5985369,-120.1454973\)](#)

► [Hotspot navigation](#)

**[Overview \(/hotspot/L5611537?yr=all&m=\)](#)**

**[Illustrated Checklist \(/hotspot/L5611537/media?yr=all&m=\)](#)**

## VIEW MY...

[My eBird \(/myebird/L5611537\)](#)

[Life List \(/lifelist/L5611537\)](#)

[Target Species \(/targets?r1=L5611537&bmo=1&emo=12\)](#)

[Checklists \(/mychecklists/L5611537\)](#)

## EXPLORE...

[Hotspot Map \(/hotspots?hs=L5611537&yr=all&m=\)](#)

[Bar Charts \(/barchart?r=L5611537&yr=all&m=\)](#)

[Media \(https://ebird.org/media/catalog?regionCode=L5611537\)](#)

[Printable Checklist \(/printableList?regionCode=L5611537&yr=all&m=\)](#)

 **71**

[Species observed](#)

[\(/hotspot/L5611537?yr=all&m=\)](#)

 **28**

[Complete checklists](#)

[\(/hotspot/L5611537/activity?yr=all&m=\)](#)

# Sightings

Updated 9 sec ago.

[Last seen \(/hotspot/L5611537?yr=all&m=&rank=mrec\)](/hotspot/L5611537?yr=all&m=&rank=mrec)

[First seen \(/hotspot/L5611537?yr=all&m=&rank=lrec\)](/hotspot/L5611537?yr=all&m=&rank=lrec)

[High counts \(/hotspot/L5611537?yr=all&m=&rank=hc\)](/hotspot/L5611537?yr=all&m=&rank=hc)

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[SPECIES NAME \(/HOTSPOT/L5611537?YR=ALL&M=&RANK=MREC&HS\\_SORTBY=TAXON\\_ORDER&HS\\_O=ASC\)](/HOTSPOT/L5611537?YR=ALL&M=&RANK=MREC&HS_SORTBY=TAXON_ORDER&HS_O=ASC)

[COUNT \(/HOTSPOT/L5611537?YR=ALL&M=&RANK=MREC&HS\\_SORTBY=DATE&HS\\_O=ASC\)](/HOTSPOT/L5611537?YR=ALL&M=&RANK=MREC&HS_SORTBY=DATE&HS_O=ASC)


[OBSERVER](/HOTSPOT/L5611537?YR=ALL&M=&RANK=MREC&HS_SORTBY=DATE&HS_O=ASC)

[DATE \(/HOTSPOT/L5611537?YR=ALL&M=&RANK=MREC&HS\\_SORTBY=DATE&HS\\_O=ASC\)](/HOTSPOT/L5611537?YR=ALL&M=&RANK=MREC&HS_SORTBY=DATE&HS_O=ASC)

## 1. [Acorn Woodpecker\(/species/acowoo/L5611537\)](/species/acowoo/L5611537)

# 6


 [7 Dec 2022 \(/checklist/S123681793\)](/checklist/S123681793)

 Anonymous eBirder

## 2. [Northern Flicker\(/species/norfli/L5611537\)](/species/norfli/L5611537)

# 1


 [7 Dec 2022 \(/checklist/S123681793\)](/checklist/S123681793)

 Anonymous eBirder

## 3. [Black Phoebe\(/species/blkpho/L5611537\)](/species/blkpho/L5611537)

# 1

 [7 Dec 2022 \(/checklist/S123681793\)](/checklist/S123681793)

 Anonymous eBirder

## 4. [California Scrub-Jay\(/species/cowscj1/L5611537\)](/species/cowscj1/L5611537)

# 2

 [7 Dec 2022 \(/checklist/S123681793\)](/checklist/S123681793)

 Anonymous eBirder

## 5. [Bushtit\(/species/bushti/L5611537\)](/species/bushti/L5611537)

# 4

 [7 Dec 2022 \(/checklist/S123681793\)](/checklist/S123681793)

 Anonymous eBirder

## 6. [White-breasted Nuthatch\(/species/whbnut/L5611537\)](/species/whbnut/L5611537)

# 1

 [7 Dec 2022 \(/checklist/S123681793\)](/checklist/S123681793)


 Anonymous eBirder



## 7. [Dark-eyed Junco\(/species/daejun/L5611537\)](/species/daejun/L5611537)

# 6

 [7 Dec 2022 \(/checklist/S123681793\)](/checklist/S123681793)

 Anonymous eBirder

## 8. [California Towhee\(/species/caltow/L5611537\)](/species/caltow/L5611537)

# 2

 [7 Dec 2022 \(/checklist/S123681793\)](/checklist/S123681793)

 Anonymous eBirder

## 9. [Yellow-billed Magpie\(/species/yebmag/L5611537\)](/species/yebmag/L5611537)

# 1

 [1 Nov 2022 \(/checklist/S121722942\)](/checklist/S121722942)

 Daniel Dunn

## 10. [American Crow\(/species/amecro/L5611537\)](/species/amecro/L5611537)

# 4

 [1 Nov 2022 \(/checklist/S121722942\)](/checklist/S121722942)

 Daniel Dunn

## 11. [Western Bluebird\(/species/wesblu/L5611537\)](/species/wesblu/L5611537)

# 1

 [1 Nov 2022 \(/checklist/S121722942\)](/checklist/S121722942)

 Daniel Dunn

## 12. [Mountain Bluebird\(/species/moublu/L5611537\)](/species/moublu/L5611537)

# 1

 [1 Nov 2022 \(/checklist/S121722942\)](/checklist/S121722942)





































 Daniel Dunn

## 13. [Red-winged Blackbird\(/species/rewbla/L5611537\)](/species/rewbla/L5611537)





































# 5

 [1 Nov 2022 \(/checklist/S121722942\)](/checklist/S121722942)

 Daniel Dunn


14.	<b><u>Brewer's Blackbird(/species/brebla/L5611537).</u></b>	
# 1	 <a href="/checklist/S121722942">1 Nov 2022 (/checklist/S121722942)</a>	 Daniel Dunn
15.	<b><u>Great-tailed Grackle(/species/grtgra/L5611537).</u></b>	
# 1	 <a href="/checklist/S121722942">1 Nov 2022 (/checklist/S121722942)</a>	 Daniel Dunn
16.	<b><u>Red-shouldered Hawk(/species/reshaw/L5611537).</u></b>	
# 1	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
17.	<b><u>Pacific-slope Flycatcher(/species/pasfly/L5611537).</u></b>	
# 1	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
18.	<b><u>Common Raven(/species/comrav/L5611537).</u></b>	
# 4	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
19.	<b><u>Oak Titmouse(/species/oaktit/L5611537).</u></b>	
# 3	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
20.	<b><u>Scaly-breasted Munia(/species/nutman/L5611537).</u></b>	
# 3	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
21.	<b><u>House Sparrow(/species/houspa/L5611537).</u></b>	
# 2	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
22.	<b><u>Lesser Goldfinch(/species/lesgol/L5611537).</u></b>	
# 2	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
23.	<b><u>Lark Sparrow(/species/larspa/L5611537).</u></b>	
# 4	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
24.	<b><u>Song Sparrow(/species/sonspa/L5611537).</u></b>	
# 1	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
25.	<b><u>Bullock's Oriole(/species/bulori/L5611537).</u></b>	
# 1	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
26.	<b><u>Yellow-rumped Warbler(/species/yerwar/L5611537).</u></b>	
# 1	 <a href="/checklist/S120166312">7 Oct 2022 (/checklist/S120166312)</a>	 Holly Cannon
27.	<b><u>Mourning Dove(/species/moudov/L5611537).</u></b>	
# 1	 <a href="/checklist/S115000571">13 Jul 2022 (/checklist/S115000571)</a>	 Carmelito Guan
28.	<b><u>Turkey Vulture(/species/turvul/L5611537).</u></b>	
# 1	 <a href="/checklist/S115000571">13 Jul 2022 (/checklist/S115000571)</a>	 Carmelito Guan
29.	<b><u>Red-tailed Hawk(/species/rethaw/L5611537).</u></b>	
# 1	 <a href="/checklist/S115000571">13 Jul 2022 (/checklist/S115000571)</a>	 Carmelito Guan
30.	<b><u>Nuttall's Woodpecker(/species/nutwoo/L5611537).</u></b>	
# 2	 <a href="/checklist/S115000571">13 Jul 2022 (/checklist/S115000571)</a>	 Carmelito Guan



31.	<b><u>Blue-gray Gnatcatcher(/species/buggna/L5611537).</u></b>		
# 2	 <a href="/checklist/S115000571">13 Jul 2022 (/checklist/S115000571)</a>	 Carmelito Guan	
32.	<b><u>House Finch(/species/houfin/L5611537).</u></b>		
# 8	 <a href="/checklist/S115000571">13 Jul 2022 (/checklist/S115000571)</a>	 Carmelito Guan	
33.	<b><u>Hooded Oriole(/species/hooori/L5611537).</u></b>		
# 1	 <a href="/checklist/S115000571">13 Jul 2022 (/checklist/S115000571)</a>	 Carmelito Guan	
34.	<b><u>Brown-headed Cowbird(/species/bnhcow/L5611537).</u></b>		
# 1	 <a href="/checklist/S115000571">13 Jul 2022 (/checklist/S115000571)</a>	 Carmelito Guan	
35.	<b><u>California Quail(/species/calqua/L5611537).</u></b>		
# 24	 <a href="/checklist/S106538836">7 Apr 2022 (/checklist/S106538836)</a>	 Spat Cannon	
36.	<b><u>Northern Mockingbird(/species/normoc/L5611537).</u></b>		
# 1	 <a href="/checklist/S106538836">7 Apr 2022 (/checklist/S106538836)</a>	 Spat Cannon	
37.	<b><u>White-crowned Sparrow(/species/whcspa/L5611537).</u></b>		
# 4	 <a href="/checklist/S106538836">7 Apr 2022 (/checklist/S106538836)</a>	 Spat Cannon	
38.	<b><u>Eurasian Collared-Dove(/species/eucdov/L5611537).</u></b>		*
# 1	 <a href="/checklist/S106190768">3 Apr 2022 (/checklist/S106190768)</a>	 Naresh Satyan	
39.	<b><u>Anna's Hummingbird(/species/annhum/L5611537).</u></b>		
# 2	 <a href="/checklist/S106190768">3 Apr 2022 (/checklist/S106190768)</a>	 Naresh Satyan	
40.	<b><u>Hairy Woodpecker(/species/haiwoo/L5611537).</u></b>		 
# 1	 <a href="/checklist/S106190768">3 Apr 2022 (/checklist/S106190768)</a>	 Naresh Satyan	
41.	<b><u>Ruby-crowned Kinglet(/species/ruckin/L5611537).</u></b>		
# 1	 <a href="/checklist/S106190768">3 Apr 2022 (/checklist/S106190768)</a>	 Naresh Satyan	
42.	<b><u>European Starling(/species/eursta/L5611537).</u></b>		*
# 7	 <a href="/checklist/S106190768">3 Apr 2022 (/checklist/S106190768)</a>	 Naresh Satyan	
43.	<b><u>American Robin(/species/amerob/L5611537).</u></b>		
# 5	 <a href="/checklist/S106190768">3 Apr 2022 (/checklist/S106190768)</a>	 Naresh Satyan	
44.	<b><u>Rock Pigeon(/species/rocpig/L5611537).</u></b>		*
# 6	 <a href="/checklist/S100735510">14 Jan 2022 (/checklist/S100735510)</a>	 kimberlie moutoux	
45.	<b><u>Greater Roadrunner(/species/greroa/L5611537).</u></b>		
# 1	 <a href="/checklist/S91895339">17 Jul 2021 (/checklist/S91895339)</a>	 Ryan Ford	
46.	<b><u>Black-chinned Hummingbird(/species/bkchum/L5611537).</u></b>		
# 1	 <a href="/checklist/S91097787">1 Jul 2021 (/checklist/S91097787)</a>	 Marissa Noelle	
47.	<b><u>Bewick's Wren(/species/bewwre/L5611537).</u></b>		
# 2	 <a href="/checklist/S91097787">1 Jul 2021 (/checklist/S91097787)</a>	 Marissa Noelle	

48. **Yellow Warbler(/species/yelwar/L5611537).**

# 1

 [9 May 2021 \(/checklist/S87682477\)](/checklist/S87682477) jim collatz49. **Band-tailed Pigeon(/species/batpig1/L5611537).**

# 10

 [21 Mar 2021 \(/checklist/S83809873\)](/checklist/S83809873) Mike Stephens50. **Cassin's Kingbird(/species/caskin/L5611537).**

# 2

 [19 Feb 2021 \(/checklist/S81968217\)](/checklist/S81968217) Constance Ilg51. **Allen's Hummingbird(/species/allhum/L5611537).**

# 1

 [12 Nov 2020 \(/checklist/S76200763\)](/checklist/S76200763) Neysa Frechette52. **Hermit Thrush(/species/herthr/L5611537).**

# 1

 [12 Nov 2020 \(/checklist/S76200763\)](/checklist/S76200763) Neysa Frechette53. **Golden-crowned Sparrow(/species/gocspa/L5611537).**

# 2

 [12 Nov 2020 \(/checklist/S76200763\)](/checklist/S76200763) Neysa Frechette54. **Spotted Towhee(/species/spotow/L5611537).**


# 1

 [26 Apr 2020 \(/checklist/S67877764\)](/checklist/S67877764) Bill Bowman55. **Downy Woodpecker(/species/dowwoo/L5611537).**

# 1

 [28 May 2019 \(/checklist/S56943417\)](/checklist/S56943417) Donald Batema56. **Western Wood-Pewee(/species/wewpew/L5611537).**


# 1

 [28 May 2019 \(/checklist/S56943417\)](/checklist/S56943417) Donald Batema57. **Chestnut-backed Chickadee(/species/chbchi/L5611537).**

# 4

 [28 May 2019 \(/checklist/S56943417\)](/checklist/S56943417) Donald Batema58. **Chipping Sparrow(/species/chispa/L5611537).**

# 2

 [28 May 2019 \(/checklist/S56943417\)](/checklist/S56943417) Donald Batema59. **Ash-throated Flycatcher(/species/astfly/L5611537).**


# 1

 [18 Apr 2019 \(/checklist/S55244776\)](/checklist/S55244776) Phil Parker60. **California Thrasher(/species/calthr/L5611537).**


# 2

 [18 Apr 2019 \(/checklist/S55244776\)](/checklist/S55244776) Phil Parker61. **American Pipit(/species/amepip/L5611537).**

# 1

 [17 Mar 2019 \(/checklist/S53949541\)](/checklist/S53949541) martha markusen62. **Orange-crowned Warbler(/species/orcwar/L5611537).**

# 1

 [24 Jan 2019 \(/checklist/S52040368\)](/checklist/S52040368) Amy Worell63. **Cedar Waxwing(/species/cedwax/L5611537).**

# 10

 [15 Nov 2018 \(/checklist/S49960105\)](/checklist/S49960105) Neysa Frechette64. **Townsend's Warbler(/species/towwar/L5611537).**

# 1

 [15 Nov 2018 \(/checklist/S49960105\)](/checklist/S49960105) Neysa Frechette

65. **White-throated Swift(/species/whtswi/L5611537).**

# 1

26 Mar 2018 (/checklist/S43984048).

Libby Patten

66. **Hutton's Vireo(/species/hutvir/L5611537).**

# 1

26 Mar 2018 (/checklist/S43984048).

Libby Patten

67. **Purple Finch(/species/purfin/L5611537).**

# 6

26 Mar 2018 (/checklist/S43984048).

Libby Patten

68. **Western Tanager(/species/westan/L5611537).**

# 1

22 Mar 2018 (/checklist/S69873892).

Janet Saczawa

69. **Cooper's Hawk(/species/coohaw/L5611537).**

# 1

16 Mar 2017 (/checklist/S35407084).

K.C. Anderson

70. **American Goldfinch(/species/amegfi/L5611537).**

# X

27 Feb 1999 (/checklist/S93145149).

Marna Ford

71. **Yellow-bellied Sapsucker(/species/yebsap/L5611537).**

# 1

26 Jan 1990 (/checklist/S114182518).

Shawneen Finnegan

## ADDITIONAL TAXA

Cassin's/Western Kingbird

# 1

15 Mar 2022 (/checklist/S104890867).

John Quinn

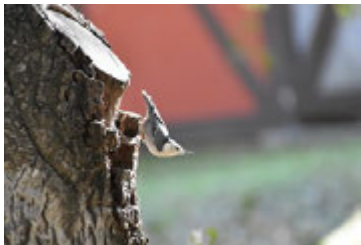
hummingbird sp.

# 1

17 Mar 2019 (/checklist/S53949541).

martha markusen

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(https://macaulaylibrary.org/asset/511476531)

[More top media \(https://ebird.org/media/catalog?regionCode=L5611537&sort=rating\\_rank\\_desc&dsu=30\).](https://ebird.org/media/catalog?regionCode=L5611537&sort=rating_rank_desc&dsu=30)

## Recent visits

OBSERVER	DATE	SPECIES
Anonymous eBirder	7 Dec 2022 (/checklist/S123681793).	8
Daniel Dunn	1 Nov 2022 (/checklist/S121722942).	7
Anonymous eBirder	12 Oct 2022 (/checklist/S120573031).	1
Holly Cannon	7 Oct 2022 (/checklist/S120166312).	17
Carmelito Guan	13 Jul 2022 (/checklist/S115000571).	18

OBSERVER	DATE	SPECIES
Miles Mcevoy	<a href="/checklist/S109460910">9 May 2022 (/checklist/S109460910)</a>	4
Spat Cannon	<a href="/checklist/S106538836">7 Apr 2022 (/checklist/S106538836)</a>	13
Latha G A	<a href="/checklist/S106238553">3 Apr 2022 (/checklist/S106238553)</a>	22
John Quinn	<a href="/checklist/S104890867">15 Mar 2022 (/checklist/S104890867)</a>	13
kimberlie moutoux	<a href="/checklist/S100735510">14 Jan 2022 (/checklist/S100735510)</a>	4

Checklists submitted within the last hour are not shown.

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[Checklists \(/hotspot/L5611537?yr=all&m=&sortBy=cl\)](/hotspot/L5611537?yr=all&m=&sortBy=cl).

1	Neysa Frechette		31
2	Libby Patten		28
3	martha markusen	25	
4	Richard Armerding	22	
4	Catherine Bourne	22	
4	Donald Batema	22	
4	Latha G A	22	

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COUNT (/HOTSPOT/L1499847?YR=ALL&amp;M=&amp;RANK=MREC&amp;HS\_SORTBY=DATE&amp;HS\_O=ASC) DATE (/HOTSPOT/L1499847?YR=ALL&amp;M=&amp;RANK=MREC&amp;HS\_SORTBY=DATE&amp;HS\_O=ASC) OBSERVER

1. **White-throated Swift(/species/whtswi/L1499847)**


# 5

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy2. **Sora(/species/sora/L1499847)**


# 1

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy3. **American Coot(/species/y00475/L1499847)**


# 8

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy4. **Wilson's Snipe(/species/wilzni1/L1499847)**


# 1

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy5. **Red-tailed Hawk(/species/rethaw/L1499847)**


# 1

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy6. **Acorn Woodpecker(/species/acowoo/L1499847)**


# 2

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy7. **Nuttall's Woodpecker(/species/nutwoo/L1499847)**


# 1

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy8. **Northern Flicker(/species/norfli/L1499847)**

# 1

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy9. **Black Phoebe(/species/blkpho/L1499847)**

# 3

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy10. **California Scrub-Jay(/species/cowscj1/L1499847)**

# 2

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy11. **American Crow(/species/amecro/L1499847)**

# 17

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy12. **Ruby-crowned Kinglet(/species/ruckin/L1499847)**

# 3

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy13. **Bewick's Wren(/species/bewwre/L1499847)**

# 1

 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy14. **California Thrasher(/species/calthr/L1499847)**

# 1


 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy15. **Hermit Thrush(/species/herthr/L1499847)**

# 1


 2 Dec 2022 (/checklist/S123360007) Rebecca Lovejoy

16. **American Robin(/species/amerob/L1499847).**


# 1

 [2 Dec 2022 \(/checklist/S123360007\)](/checklist/S123360007) Rebecca Lovejoy17. **House Finch(/species/houfin/L1499847).**


# 6

 [2 Dec 2022 \(/checklist/S123360007\)](/checklist/S123360007) Rebecca Lovejoy18. **White-crowned Sparrow(/species/whcspa/L1499847).**


# 5

 [2 Dec 2022 \(/checklist/S123360007\)](/checklist/S123360007) Rebecca Lovejoy19. **California Towhee(/species/caltow/L1499847).**

# 1

 [2 Dec 2022 \(/checklist/S123360007\)](/checklist/S123360007) Rebecca Lovejoy20. **Spotted Towhee(/species/spotow/L1499847).**


# 1

 [2 Dec 2022 \(/checklist/S123360007\)](/checklist/S123360007) Rebecca Lovejoy21. **Common Yellowthroat(/species/comyel/L1499847).**



# 1

 [2 Dec 2022 \(/checklist/S123360007\)](/checklist/S123360007) Rebecca Lovejoy22. **Yellow-rumped Warbler(/species/yerwar/L1499847).**

# 6

 [2 Dec 2022 \(/checklist/S123360007\)](/checklist/S123360007) Rebecca Lovejoy23. **Anna's Hummingbird(/species/annhum/L1499847).**

# 1

 [6 Nov 2022 \(/checklist/S121972394\)](/checklist/S121972394) Conor McMahon24. **Cassin's Kingbird(/species/caskin/L1499847).**

# 2

 [6 Nov 2022 \(/checklist/S121972394\)](/checklist/S121972394) Conor McMahon25. **Oak Titmouse(/species/oaktit/L1499847).**

# 1

 [28 Oct 2022 \(/checklist/S121479668\)](/checklist/S121479668) Joan MacDonald26. **Northern Mockingbird(/species/normoc/L1499847).**

# 1

 [28 Oct 2022 \(/checklist/S121479668\)](/checklist/S121479668) Joan MacDonald27. **Lesser Goldfinch(/species/lesgol/L1499847).**


# 1

 [28 Oct 2022 \(/checklist/S121479668\)](/checklist/S121479668) Joan MacDonald28. **California Quail(/species/calqua/L1499847).**

# 13

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine29. **Eurasian Collared-Dove(/species/eucdov/L1499847).**

# 2

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine30. **Mourning Dove(/species/moudov/L1499847).**

# 1

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine31. **Allen's Hummingbird(/species/allhum/L1499847).**

# 3

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine32. **Turkey Vulture(/species/turvul/L1499847).**


# 3

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine



\*

33. **Cooper's Hawk(/species/coohaw/L1499847).**


# 1

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine34. **Ash-throated Flycatcher(/species/astfly/L1499847).**



# 1

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine35. **Yellow-billed Magpie(/species/yebmag/L1499847).**


# 3

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine36. **Chestnut-backed Chickadee(/species/chbchi/L1499847).**


# 1

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine37. **Bushtit(/species/bushti/L1499847).**


# 10

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine38. **House Sparrow(/species/houspa/L1499847).**


# 2

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine39. **Purple Finch(/species/purfin/L1499847).**


# 2

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine40. **American Goldfinch(/species/amegfi/L1499847).**

# 1

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine41. **Dark-eyed Junco(/species/daejun/L1499847).**

# 3

 [24 Jul 2022 \(/checklist/S115710392\)](/checklist/S115710392) Brad Shine42. **Band-tailed Pigeon(/species/batpig1/L1499847).**

# 2

 [19 Jun 2022 \(/checklist/S113276947\)](/checklist/S113276947) Noah Price43. **Killdeer(/species/killde/L1499847).**

# 1

 [19 Jun 2022 \(/checklist/S113276947\)](/checklist/S113276947) Noah Price44. **Great Blue Heron(/species/grbher3/L1499847).**

# 2

 [19 Jun 2022 \(/checklist/S113276947\)](/checklist/S113276947) Noah Price45. **American Kestrel(/species/amekes/L1499847).**

# 1

 [19 Jun 2022 \(/checklist/S113276947\)](/checklist/S113276947) Noah Price46. **Northern Rough-winged Swallow(/species/nrwsa/L1499847).**

# 4

 [19 Jun 2022 \(/checklist/S113276947\)](/checklist/S113276947) Noah Price47. **Violet-green Swallow(/species/vigswa/L1499847).**

# 3

 [19 Jun 2022 \(/checklist/S113276947\)](/checklist/S113276947) Noah Price48. **Cliff Swallow(/species/cliswa/L1499847).**

# 3

 [19 Jun 2022 \(/checklist/S113276947\)](/checklist/S113276947) Noah Price49. **Wrentit(/species/wrenti/L1499847).**



# 1

 [19 Jun 2022 \(/checklist/S113276947\)](/checklist/S113276947) Noah Price





50. **European Starling(/species/eursta/L1499847).**



# 1

 19 Jun 2022 (/checklist/S113276947). Noah Price51. **Western Bluebird(/species/wesblu/L1499847).**



# 1

 19 Jun 2022 (/checklist/S113276947). Noah Price52. **Bullock's Oriole(/species/bulori/L1499847).**



# 1

 19 Jun 2022 (/checklist/S113276947). Noah Price53. **Red-winged Blackbird(/species/rewbla/L1499847).**


# 1

 19 Jun 2022 (/checklist/S113276947). Noah Price54. **Brewer's Blackbird(/species/brebla/L1499847).**


# 2

 19 Jun 2022 (/checklist/S113276947). Noah Price55. **Black-headed Grosbeak(/species/bkhgro/L1499847).**


# 1

 19 Jun 2022 (/checklist/S113276947). Noah Price56. **Tree Swallow(/species/treswa/L1499847).**



# 7

 19 May 2022 (/checklist/S111126157). Randy Kimmett57. **Yellow Warbler(/species/yelwar/L1499847).**

# 1

 19 May 2022 (/checklist/S111126157). Randy Kimmett58. **Snowy Egret(/species/snoegr/L1499847).**

# 1

 3 May 2022 (/checklist/S108845644). Wim van Dam59. **Song Sparrow(/species/sonspa/L1499847).**

# 1

 3 May 2022 (/checklist/S108845644). Wim van Dam60. **Great Egret(/species/greegr/L1499847).**


# 1

 31 Mar 2022 (/checklist/S105976195). margeNdon thornton61. **Mallard(/species/mallar3/L1499847).**

# 2

 20 Mar 2022 (/checklist/S105448942). margeNdon thornton62. **Cinnamon Teal(/species/cintea/L1499847).**

# 2

 18 Mar 2022 (/checklist/S105093213). Wim van Dam63. **Bufflehead(/species/buffle/L1499847).**

# 2

 18 Mar 2022 (/checklist/S105093213). Wim van Dam64. **Phainopepla(/species/phaino/L1499847).**

# 2

 12 Mar 2022 (/checklist/S104676893). Natalie Shillito65. **American Wigeon(/species/amewig/L1499847).**

# 2

 11 Mar 2022 (/checklist/S104600430). Mark Holmgren66. **Pied-billed Grebe(/species/pibgre/L1499847).**

# 3

 11 Mar 2022 (/checklist/S104600430). Mark Holmgren

67. **Savannah Sparrow(/species/savspa/L1499847).**

# 2

 11 Mar 2022 (/checklist/S104600430). Mark Holmgren68. **Lincoln's Sparrow(/species/linspa/L1499847).**

# 2

 11 Mar 2022 (/checklist/S104600430). Mark Holmgren69. **Greater Yellowlegs(/species/greyel/L1499847).**

# 1

 24 Feb 2022 (/checklist/S103639388). David Blue70. **Downy Woodpecker(/species/dowwoo/L1499847).**

# 1

 19 Jan 2022 (/checklist/S101040251). David Blue71. **Ring-necked Duck(/species/rinduc/L1499847).**

# 2

 4 Dec 2021 (/checklist/S98476723). Anonymous eBirder72. **Ruddy Duck(/species/rudduc/L1499847).**

# 1

 4 Dec 2021 (/checklist/S98476723). Anonymous eBirder73. **Red-shouldered Hawk(/species/reshaw/L1499847).**


# 1

 4 Dec 2021 (/checklist/S98476723). Anonymous eBirder74. **White-breasted Nuthatch(/species/whbnut/L1499847).**

# 2

 4 Dec 2021 (/checklist/S98476723). Anonymous eBirder75. **Cedar Waxwing(/species/cedwax/L1499847).**


# 12

 4 Dec 2021 (/checklist/S98476723). Anonymous eBirder76. **Golden-crowned Sparrow(/species/gocspa/L1499847).**

# 1

 4 Dec 2021 (/checklist/S98476723). Anonymous eBirder77. **Orange-crowned Warbler(/species/orcwar/L1499847).**

# 3

 4 Dec 2021 (/checklist/S98476723). Anonymous eBirder78. **Rock Pigeon(/species/rocpig/L1499847).**

# 8

 14 Aug 2021 (/checklist/S93214933). Cameron Johnson

\*

79. **Golden Eagle(/species/goleag/L1499847).**

# 1

 14 Aug 2021 (/checklist/S93214933). Cameron Johnson80. **Belted Kingfisher(/species/belkin1/L1499847).**

# 1

 9 Aug 2021 (/checklist/S92999627). Mark Holmgren81. **Great-tailed Grackle(/species/grtgra/L1499847).**

# 3

 9 Aug 2021 (/checklist/S92999627). Mark Holmgren82. **Green Heron(/species/grnher/L1499847).**

# 1


 20 Jun 2021 (/checklist/S90492254). David Blue83. **Hairy Woodpecker(/species/haiwoo/L1499847).**

# 2



 3 Jun 2021 (/checklist/S89559063). Mark Holmgren

84. **Common Raven(/species/comrav/L1499847).**



# 1

 [3 Jun 2021 \(/checklist/S89559063\)](/checklist/S89559063) Mark Holmgren85. **Yellow-breasted Chat(/species/yebcha/L1499847).**

# 1

 [3 Jun 2021 \(/checklist/S89559063\)](/checklist/S89559063) Mark Holmgren86. **Hooded Oriole(/species/hooori/L1499847).**


# 3

 [3 Jun 2021 \(/checklist/S89559063\)](/checklist/S89559063) Mark Holmgren87. **Osprey(/species/osprey/L1499847).**


# 1

 [6 Mar 2021 \(/checklist/S82899554\)](/checklist/S82899554) Scott Henning88. **Barn Owl(/species/brnowl/L1499847).**


# 1

 [6 Mar 2021 \(/checklist/S82899554\)](/checklist/S82899554) Scott Henning89. **Gadwall(/species/gadwal/L1499847).**



# 4

 [26 Feb 2021 \(/checklist/S82404563\)](/checklist/S82404563) Anonymous eBirder90. **Hooded Merganser(/species/hoomer/L1499847).**



# 1

 [26 Feb 2021 \(/checklist/S82404563\)](/checklist/S82404563) Anonymous eBirder91. **Barn Swallow(/species/barswa/L1499847).**

# 1

 [26 Jan 2021 \(/checklist/S79942910\)](/checklist/S79942910) David Blue92. **Blue-gray Gnatcatcher(/species/buggna/L1499847).**


# 1

 [26 Jan 2021 \(/checklist/S79942910\)](/checklist/S79942910) David Blue93. **Say's Phoebe(/species/saypho/L1499847).**

# X

 [12 Jan 2021 \(/checklist/S79133225\)](/checklist/S79133225) therese jackson94. **Redhead(/species/redhea/L1499847).**

# 3

 [22 Nov 2020 \(/checklist/S76592552\)](/checklist/S76592552) Eric Wier95. **Canada Goose(/species/cangoo/L1499847).**

# 2

 [9 May 2020 \(/checklist/S68773295\)](/checklist/S68773295) Rafaelle Abramovitz96. **Pacific-slope Flycatcher(/species/pasfly/L1499847).**

# 1

 [9 May 2020 \(/checklist/S68773295\)](/checklist/S68773295) Rafaelle Abramovitz97. **Merlin(/species/merlin/L1499847).**

# 1

 [29 Jan 2020 \(/checklist/S63920963\)](/checklist/S63920963) margeNdon thornton98. **Sharp-shinned Hawk(/species/shshaw/L1499847).**

# 1



































 [31 Dec 2019 \(/checklist/S62815486\)](/checklist/S62815486) Joe Eisaguirre99. **Red-breasted Sapsucker(/species/rebsap/L1499847).**


# 1

 [31 Dec 2019 \(/checklist/S62815486\)](/checklist/S62815486) Joe Eisaguirre100. **Common Merganser(/species/commer/L1499847).**



















# 2

 [18 Feb 2019 \(/checklist/S52972288\)](/checklist/S52972288) margeNdon thornton

101. **Western Wood-Pewee(/species/wewpew/L1499847).**  
# 1  [23 Jun 2018 \(/checklist/S46750199\)](/checklist/S46750199)  Louis Bevier
102. **Vaux's Swift(/species/vauswi/L1499847).**  
# 2  [6 May 2018 \(/checklist/S45379891\)](/checklist/S45379891)  Richard Dean
103. **Bald Eagle(/species/baleag/L1499847).**  
# 1  [19 May 2017 \(/checklist/S37042868\)](/checklist/S37042868)  Becky Turley
104. **House Wren(/species/houwre/L1499847).**  
# 1  [27 Feb 2017 \(/checklist/S34868673\)](/checklist/S34868673)  Libby Patten
105. **Double-crested Cormorant(/species/doccor/L1499847).**  
# 1  [21 Jan 2017 \(/checklist/S33848775\)](/checklist/S33848775)  margeNdon thornton
106. **Loggerhead Shrike(/species/logshr/L1499847).**  
# 1  [7 Jan 2017 \(/checklist/S33521536\)](/checklist/S33521536)  Sarah Toner
107. **Lark Sparrow(/species/larspa/L1499847).**  
# 1  [29 Dec 2016 \(/checklist/S33271842\)](/checklist/S33271842)  Mark Sawyer
108. **American Pipit(/species/amepip/L1499847).**  
# 1  [8 Oct 2016 \(/checklist/S31978494\)](/checklist/S31978494)  Steve Ganley
109. **Black-throated Gray Warbler(/species/btywar/L1499847).**  
# 1  [8 Oct 2016 \(/checklist/S31978494\)](/checklist/S31978494)  Steve Ganley
110. **Lawrence's Goldfinch(/species/lawgol/L1499847).**  
# 2  [18 Jun 2016 \(/checklist/S30280555\)](/checklist/S30280555)  Andrew Core
111. **Black-chinned Hummingbird(/species/bkchum/L1499847).**  
# 1  [2 May 2016 \(/checklist/S29364471\)](/checklist/S29364471)  Libby Patten
112. **Brown-headed Cowbird(/species/bnhcow/L1499847).**  
# 5  [16 Dec 2015 \(/checklist/S26404127\)](/checklist/S26404127)  Chris Donald
113. **Warbling Vireo(/species/warvir/L1499847).**  
# 1  [20 Apr 2015 \(/checklist/S22992266\)](/checklist/S22992266)  Libby Patten
114. **Pine Siskin(/species/pinsis/L1499847).**  
# 8  [20 Apr 2015 \(/checklist/S22992266\)](/checklist/S22992266)  Libby Patten
115. **Lazuli Bunting(/species/lazbun/L1499847).**  
# 1  [10 May 2014 \(/checklist/S18322184\)](/checklist/S18322184)  Shawn McVicar
116. **Spotted Sandpiper(/species/sposan/L1499847).**  
# 1  [21 Apr 2014 \(/checklist/S18012640\)](/checklist/S18012640)  Janet Oettinger
117. **Green-winged Teal(/species/gnwtea/L1499847).**  
# 2  [9 Mar 2014 \(/checklist/S17407973\)](/checklist/S17407973)  Michael Martin

118.	<b><u>Common Goldeneye(/species/comgol/L1499847).</u></b>	
# 2	 <a href="/checklist/S17133491">21 Feb 2014 (/checklist/S17133491)</a>	 Maggie Smith
119.	<b><u>Yellow-bellied Sapsucker(/species/yebesap/L1499847).</u></b>	
# 1	 <a href="/checklist/S17133491">21 Feb 2014 (/checklist/S17133491)</a>	 Maggie Smith
120.	<b><u>Virginia Rail(/species/virrai/L1499847).</u></b>	
# 1	 <a href="/checklist/S11951981">31 Oct 2012 (/checklist/S11951981)</a>	 David Compton
121.	<b><u>Marsh Wren(/species/marwre/L1499847).</u></b>	
# 1	 <a href="/checklist/S11951981">31 Oct 2012 (/checklist/S11951981)</a>	 David Compton
122.	<b><u>Swamp Sparrow(/species/swaspa/L1499847).</u></b>	
# 1	 <a href="/checklist/S11951981">31 Oct 2012 (/checklist/S11951981)</a>	 David Compton
123.	<b><u>Purple Martin(/species/purmar/L1499847).</u></b>	
# 1	 <a href="/checklist/S10517677">22 Apr 2012 (/checklist/S10517677)</a>	 Justin Watts
124.	<b><u>Western Meadowlark(/species/wesmea/L1499847).</u></b>	
# 1	 <a href="/checklist/S25247603">2 Mar 2005 (/checklist/S25247603)</a>	 Hans Spiecker

## ADDITIONAL TAXA

Cassin's/Western Kingbird		
# 1	 <a href="/checklist/S115710392">24 Jul 2022 (/checklist/S115710392)</a>	 Brad Shine
Sharp-shinned/Cooper's Hawk		
# 1	 <a href="/checklist/S101968383">3 Feb 2022 (/checklist/S101968383)</a>	 David Blue
hummingbird sp.		
# 3	 <a href="/checklist/S93214933">14 Aug 2021 (/checklist/S93214933)</a>	 Cameron Johnson
new world oriole sp.		
# 1	 <a href="/checklist/S93214933">14 Aug 2021 (/checklist/S93214933)</a>	 Cameron Johnson
new world warbler sp.		
# 1	 <a href="/checklist/S93214933">14 Aug 2021 (/checklist/S93214933)</a>	 Cameron Johnson
swallow sp.		
# 10	 <a href="/checklist/S92999627">9 Aug 2021 (/checklist/S92999627)</a>	 Mark Holmgren
cormorant sp.		
# 1	 <a href="/checklist/S73445313">10 Sep 2020 (/checklist/S73445313)</a>	 Susanne Meyer
Downy/Hairy Woodpecker		
# 1	 <a href="/checklist/S34868673">27 Feb 2017 (/checklist/S34868673)</a>	 Libby Patten
Buteo sp.		
# 1	 <a href="/checklist/S33271842">29 Dec 2016 (/checklist/S33271842)</a>	 Mark Sawyer

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Recent visits

OBSERVER	DATE	SPECIES
Rebecca Lovejoy	<a href="/checklist/S123360007">2 Dec 2022 (/checklist/S123360007)</a>	22
Conor McMahon	<a href="/checklist/S121972394">6 Nov 2022 (/checklist/S121972394)</a>	7
Cameron Johnson	<a href="/checklist/S115710393">24 Jul 2022 (/checklist/S115710393)</a>	21
Brad Shine	<a href="/checklist/S115710392">24 Jul 2022 (/checklist/S115710392)</a>	21
Noah Price	<a href="/checklist/S113276947">19 Jun 2022 (/checklist/S113276947)</a>	36
Thomas Hull	<a href="/checklist/S113276949">19 Jun 2022 (/checklist/S113276949)</a>	36
Cameron Johnson	<a href="/checklist/S113276948">19 Jun 2022 (/checklist/S113276948)</a>	36
Randy Kimmett	<a href="/checklist/S111126157">19 May 2022 (/checklist/S111126157)</a>	14
Wim van Dam	<a href="/checklist/S108845644">3 May 2022 (/checklist/S108845644)</a>	10
margeNdon thornton	<a href="/checklist/S106733831">10 Apr 2022 (/checklist/S106733831)</a>	6

Checklists submitted within the last hour are not shown.

More recent visits (</hotspot/L1499847/activity?yr=all&m=>).

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Species (</hotspot/L1499847?yr=all&m=&sortBy=spp>).

Checklists (</hotspot/L1499847?yr=all&m=&sortBy=cl>).

1	Mark Holmgren	65
2	Janet Oetinger	64
3	Libby Patten	57
4	margeNdon thornton	55
5	David Compton	52
6	Cameron Johnson	49
7	Maggie Smith	47
8	Herb Elliott	45



# Mission Santa Ynez

Santa Barbara County (/region/US-CA-083?yr=all&m=),  
California (/region/US-CA?yr=all&m=), US (/region/US?yr=all&m=).

[Map\(/hotspots?hs=L15575200&yr=all&m=\).](#)

[Directions\(https://www.google.com/maps/search/?api=1&query=34.5947629,-120.1364636\).](#)

Hotspot navigation

Overview (/hotspot/L15575200?yr=all&m=).

Illustrated Checklist (/hotspot/L15575200/media?yr=all&m=).

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[Target Species \(/targets?r1=L15575200&bmo=1&emo=12\).](#)

[Checklists \(/mychecklists/L15575200\).](#)

## EXPLORE...

[Hotspot Map \(/hotspots?hs=L15575200&yr=all&m=\).](#)

[Bar Charts \(/barchart?r=L15575200&yr=all&m=\).](#)

[Media \(https://ebird.org/media/catalog?regionCode=L15575200\).](#)

[Printable Checklist \(/printableList?regionCode=L15575200&yr=all&m=\).](#)

57

Species observed  
(/hotspot/L15575200?yr=all&m=).

14

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[SPECIES NAME \(/HOTSPOT/L15575200?YR=ALL&M=&RANK=MREC&HS\\_SORTBY=TAXON\\_ORDER&HS\\_O=ASC\)](#)  
[COUNT \(/HOTSPOT/L15575200?YR=ALL&M=&RANK=MREC&HS\\_SORTBY=COUNT&HS\\_O=ASC\)](#) [DATE \(/HOTSPOT/L15575200?YR=ALL&M=&RANK=MREC&HS\\_SORTBY=DATE&HS\\_O=ASC\)](#)

▼ OBSERVER

1. [Acorn Woodpecker\(/species/acowoo/L15575200\).](#)

# 4 8 Dec 2022 (/checklist/S123681578).

Anonymous eBirder

2. [American Crow\(/species/amecro/L15575200\).](#)

# 1 8 Dec 2022 (/checklist/S123681578).

Anonymous eBirder

3. [Yellow-rumped Warbler\(/species/yerwar/L15575200\).](#)

# 4 8 Dec 2022 (/checklist/S123681578).

Anonymous eBirder

4. [Red-tailed Hawk\(/species/rethaw/L15575200\).](#)

# 1 10 Nov 2022 (/checklist/S122190153).

Jonathan Woon

5. [Ruby-crowned Kinglet\(/species/ruckin/L15575200\).](#)

# 2 10 Nov 2022 (/checklist/S122190153).

Jonathan Woon

6. [Western Bluebird\(/species/wesblu/L15575200\).](#)

# 4 10 Nov 2022 (/checklist/S122190153).

Jonathan Woon

7. [Rock Pigeon\(/species/rocpig/L15575200\).](#)

# 15 10 Nov 2022 (/checklist/S122183953).

Thomas Van Huss

8. [White-throated Swift\(/species/whtswi/L15575200\).](#)

# 1 10 Nov 2022 (/checklist/S122183953).

Thomas Van Huss

9. [Turkey Vulture\(/species/turvul/L15575200\).](#)

# 1 10 Nov 2022 (/checklist/S122183953).

Thomas Van Huss





















































10. [Red-breasted Sapsucker\(/species/rebsap/L15575200\).](#)









































# 1 10 Nov 2022 (/checklist/S122183953).

Thomas Van Huss





11.	<b><u>California Scrub-Jay(/species/cowscj1/L15575200).</u></b>		
# 1	 10 Nov 2022 (/checklist/S122183953).	 Thomas Van Huss	
12.	<b><u>Oak Titmouse(/species/oaktit/L15575200).</u></b>		
# 1	 10 Nov 2022 (/checklist/S122183953).	 Thomas Van Huss	
13.	<b><u>White-breasted Nuthatch(/species/whbnut/L15575200).</u></b>		
# 1	 10 Nov 2022 (/checklist/S122183953).	 Thomas Van Huss	
14.	<b><u>European Starling(/species/eursta/L15575200).</u></b>		*
# 6	 10 Nov 2022 (/checklist/S122183953).	 Thomas Van Huss	
15.	<b><u>Hermit Thrush(/species/herthr/L15575200).</u></b>		
# 1	 10 Nov 2022 (/checklist/S122183953).	 Thomas Van Huss	
16.	<b><u>American Robin(/species/amerob/L15575200).</u></b>		
# 4	 10 Nov 2022 (/checklist/S122183953).	 Thomas Van Huss	
17.	<b><u>Mourning Dove(/species/moudov/L15575200).</u></b>		
# 6	 10 Oct 2022 (/checklist/S120396469).	 Alessandra Curiel	
18.	<b><u>Anna's Hummingbird(/species/annhum/L15575200).</u></b>		
# 2	 10 Oct 2022 (/checklist/S120396469).	 Alessandra Curiel	
19.	<b><u>Black Phoebe(/species/blkpho/L15575200).</u></b>		
# 1	 10 Oct 2022 (/checklist/S120396469).	 Alessandra Curiel	
20.	<b><u>Bushtit(/species/bushti/L15575200).</u></b>		
# 4	 10 Oct 2022 (/checklist/S120396469).	 Alessandra Curiel	
21.	<b><u>Bewick's Wren(/species/bewwre/L15575200).</u></b>		
# 1	 10 Oct 2022 (/checklist/S120396469).	 Alessandra Curiel	
22.	<b><u>California Thrasher(/species/calthr/L15575200).</u></b>		
# 1	 10 Oct 2022 (/checklist/S120396469).	 Alessandra Curiel	
23.	<b><u>White-crowned Sparrow(/species/whcspa/L15575200).</u></b>		
# 6	 10 Oct 2022 (/checklist/S120396469).	 Alessandra Curiel	
24.	<b><u>California Towhee(/species/caltow/L15575200).</u></b>		
# 2	 10 Oct 2022 (/checklist/S120396469).	 Alessandra Curiel	
25.	<b><u>Eurasian Collared-Dove(/species/eucdov/L15575200).</u></b>		*  
# 1	 18 Aug 2022 (/checklist/S117192180).	 Jacques Bélanger	
26.	<b><u>House Sparrow(/species/houspa/L15575200).</u></b>		*
# 3	 18 Aug 2022 (/checklist/S117192180).	 Jacques Bélanger	
27.	<b><u>Blue-gray Gnatcatcher(/species/buggna/L15575200).</u></b>		
# 2	 16 Aug 2022 (/checklist/S117045632).	 Wendy Ballard	
28.	<b><u>California Quail(/species/calqua/L15575200).</u></b>		■
# 1	 8 Jul 2022 (/checklist/S114656153).	 Tim Gier	
29.	<b><u>Great Blue Heron(/species/grbher3/L15575200).</u></b>		■
# 1	 8 Jul 2022 (/checklist/S114656153).	 Tim Gier	
30.	<b><u>House Finch(/species/houfin/L15575200).</u></b>		
# 9	 8 Jul 2022 (/checklist/S114656153).	 Tim Gier	
31.	<b><u>Lark Sparrow(/species/larspa/L15575200).</u></b>		
# 6	 8 Jul 2022 (/checklist/S114656153).	 Tim Gier	
32.	<b><u>Band-tailed Pigeon(/species/batpig1/L15575200).</u></b>		
# 2	 14 May 2022 (/checklist/S110071094).	 Troy Shortell	
33.	<b><u>Downy Woodpecker(/species/dowwoo/L15575200).</u></b>		
# 1	 14 May 2022 (/checklist/S110071094).	 Troy Shortell	
34.	<b><u>American Kestrel(/species/amekes/L15575200).</u></b>		
# 2	 14 May 2022 (/checklist/S110071094).	 Troy Shortell	
35.	<b><u>Ash-throated Flycatcher(/species/astfly/L15575200).</u></b>		
# 1	 14 May 2022 (/checklist/S110071094).	 Troy Shortell	
36.	<b><u>Cedar Waxwing(/species/cedwax/L15575200).</u></b>		

# 2	 14 May 2022 (/checklist/S110071094)	 Troy Shortell
37. <a href="/species/lesgol/L15575200">Lesser Goldfinch(/species/lesgol/L15575200)</a>		
# 1	 14 May 2022 (/checklist/S110071094)	 Troy Shortell
38. <a href="/species/sonspa/L15575200">Song Sparrow(/species/sonspa/L15575200)</a>		
# 16	 14 May 2022 (/checklist/S110071094)	 Troy Shortell
39. <a href="/species/spotow/L15575200">Spotted Towhee(/species/spotow/L15575200)</a>		
# 4	 14 May 2022 (/checklist/S110071094)	 Troy Shortell
40. <a href="/species/hooori/L15575200">Hooded Oriole(/species/hooori/L15575200)</a>		
# 2	 14 May 2022 (/checklist/S110071094)	 Troy Shortell
41. <a href="/species/rewbla/L15575200">Red-winged Blackbird(/species/rewbla/L15575200)</a>		
# 1	 14 May 2022 (/checklist/S110071094)	 Troy Shortell
42. <a href="/species/grtgra/L15575200">Great-tailed Grackle(/species/grtgra/L15575200)</a>		
# 1	 14 May 2022 (/checklist/S110071094)	 Troy Shortell
43. <a href="/species/yelwar/L15575200">Yellow Warbler(/species/yelwar/L15575200)</a>		
# 2	 14 May 2022 (/checklist/S110071094)	 Troy Shortell
44. <a href="/species/nutwoo/L15575200">Nuttall's Woodpecker(/species/nutwoo/L15575200)</a>		
# 1	 13 May 2022 (/checklist/S109876948)	 Anonymous eBirder
45. <a href="/species/vigswa/L15575200">Violet-green Swallow(/species/vigswa/L15575200)</a>		
# 3	 13 May 2022 (/checklist/S109876948)	 Anonymous eBirder
46. <a href="/species/daejun/L15575200">Dark-eyed Junco(/species/daejun/L15575200)</a>		
# 1	 13 May 2022 (/checklist/S109876948)	 Anonymous eBirder
47. <a href="/species/coshum/L15575200">Costa's Hummingbird(/species/coshum/L15575200)</a>		
# 1	 12 May 2022 (/checklist/S109775636)	 Anonymous eBirder
48. <a href="/species/coohaw/L15575200">Cooper's Hawk(/species/coohaw/L15575200)</a>		
# 1	 12 May 2022 (/checklist/S109775636)	 Anonymous eBirder
49. <a href="/species/y00475/L15575200">American Coot(/species/y00475/L15575200)</a>		
# 1	 2 May 2022 (/checklist/S108727379)	 Brian Elliott
50. <a href="/species/reshaw/L15575200">Red-shouldered Hawk(/species/reshaw/L15575200)</a>		
# 1	 2 May 2022 (/checklist/S108727379)	 Brian Elliott
51. <a href="/species/nrswa/L15575200">Northern Rough-winged Swallow(/species/nrswa/L15575200)</a>		
# 10	 2 May 2022 (/checklist/S108727379)	 Brian Elliott
52. <a href="/species/gocspa/L15575200">Golden-crowned Sparrow(/species/gocspa/L15575200)</a>		
# 1	 29 Mar 2022 (/checklist/S105874518)	 Cedrik von Briel
53. <a href="/species/brebla/L15575200">Brewer's Blackbird(/species/brebla/L15575200)</a>		
# 2	 19 Mar 2022 (/checklist/S111854145)	 Ali Nygaard
54. <a href="/species/saypho/L15575200">Say's Phoebe(/species/saypho/L15575200)</a>		
# 1	 7 Mar 2022 (/checklist/S104371275)	 Kris Janicki
55. <a href="/species/normoc/L15575200">Northern Mockingbird(/species/normoc/L15575200)</a>		
# 2	 7 Mar 2022 (/checklist/S104371275)	 Kris Janicki

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Recent visits

OBSERVER	DATE	SPECIES
Anonymous eBirder	<a href="#">8 Dec 2022 (/checklist/S123681578)</a>	4
Jonathan Woon	<a href="#">10 Nov 2022 (/checklist/S122190153)</a>	4
Thomas Van Huss	<a href="#">10 Nov 2022 (/checklist/S122183953)</a>	13
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Troy Shortell	<a href="#">14 May 2022 (/checklist/S110071094)</a>	28
Anonymous eBirder	<a href="#">13 May 2022 (/checklist/S109876948)</a>	22

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3 Brian Elliott	25
3 David Thorne	25
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7 Alessandra Curiel	12
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COUNT (/HOTSPOT/L10928115? DATE (/HOTSPOT/L10928115?

OBSERVER

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25 Jun 2021 (/checklist/S90756130)

Wendy Ballard

2. **Mourning Dove(/species/moudov/L10928115)**

# 2

24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

3. **White-throated Swift(/species/whtswi/L10928115)**

# 4

24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

4. **Black-chinned Hummingbird(/species/bkchum/L10928115)**

# 1

24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

5. **Acorn Woodpecker(/species/acowoo/L10928115)**

# 3

24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

6. **Downy Woodpecker(/species/dowwoo/L10928115)**

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Anonymous eBirder

7. **Black Phoebe(/species/blkpho/L10928115)**

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Anonymous eBirder

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Anonymous eBirder

9. **American Crow(/species/amecro/L10928115)**

# 2

24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

10. **House Sparrow(/species/houspa/L10928115)**

# 1

24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

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11. **House Finch(/species/houfin/L10928115)**

# 3

24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

12. **Lesser Goldfinch(/species/lesgol/L10928115)**

# 6

24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

13. **Dark-eyed Junco(/species/daejun/L10928115)**

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24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

14. **Song Sparrow(/species/sonspa/L10928115)**

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24 Apr 2021 (/checklist/S86273916)

Anonymous eBirder

15. **White-breasted Nuthatch(/species/whbnut/L10928115)**


# 1

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Stephen Perry

16. **Bewick's Wren(/species/bewwre/L10928115).**

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# 6

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33. **Wrentit(/species/wrenti/L10928115).**


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1

Stephen Perry

[8 Apr 2021 \(/checklist/S85115836\)](/checklist/S85115836)

13

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Christina Bowman	<a href="/checklist/S65597393">8 Mar 2020 (/checklist/S65597393)</a>	13
Coen Kliewer	<a href="/checklist/S69740398">20 Jul 2019 (/checklist/S69740398)</a>	2
Jeff Curtis	<a href="/checklist/S89298814">22 Mar 2018 (/checklist/S89298814)</a>	14
Jeffrey Blalock	<a href="/checklist/S16393615">13 May 1993 (/checklist/S16393615)</a>	6

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2	Stephen Perry			13
4	Keni Miller			12
5	Jeffrey Blalock		6	
6	John Gardiner		4	
7	Wendy Ballard	2		
7	Coen Kliewer	2		





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## **APPENDIX D**

### **Cultural Resource Report**



# Cultural Resource Investigation in Support of the City of Solvang Wastewater Treatment Plant Water Quality Project, Santa Barbara County, California

Submitted to:

Meridian Consultants, LLC  
920 Hampshire Road, Suite A5  
Westlake Village, CA 91361

Technical Report 19-234

January 10, 2020

626.408.8006 | [paleowest.com](http://paleowest.com) | 517 S. Ivy Avenue | Monrovia, CA 91016

# **CULTURAL RESOURCE INVESTIGATION IN SUPPORT OF THE CITY OF SOLVANG WASTEWATER TREATMENT PLANT WATER QUALITY PROJECT, SANTA BARBARA COUNTY, CALIFORNIA**

**Prepared by:**

Roberta Thomas, M.A., RPA

**Prepared for:**

Meridian Consultants, LLC

**Technical Report No. 19-234**

**PaleoWest Archaeology**

517 S. Ivy Avenue  
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(626) 408-8006

**January 10, 2020**

Keywords: Solvang Wastewater Treatment Plant; Section 106; CEQA; Regional Water Quality Control Board; City of Solvang; Santa Barbara County; 42-004081/CA-SBA-4081/H (prehistoric ceremonial site)

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# MANAGEMENT SUMMARY

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The City of Solvang (City) Wastewater Treatment Plant (WWTP) proposes to improve the operational efficiency of its water quality treatment (Project) in Solvang, California. PaleoWest Archaeology (PaleoWest) was contracted by Meridian Consultants, LLC, to conduct a Phase I cultural resource assessment of the 11-acre Project Area of Potential Effects (APE) in compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA). The City is the Lead Agency for the purposes of the CEQA. The Regional Water Quality Control Board (RWQCB) is the Lead Agency for the purposes of the Section 106. This investigation included background research, communication with the Native American Heritage Commission (NAHC) and interested Native American tribal groups, and a pedestrian survey of the Project APE. The purpose of the investigation was to determine the potential for the Project to impact historic resources under CEQA and historic properties under Section 106.

A cultural resource records search and literature review was conducted on June 17, 2019, by the Central Coastal Information Center (CCIC) of the California Historical Resource Information System housed at the University of California, Santa Barbara. The records search indicated that four studies have been conducted that include portions of the Project APE. In addition, 17 cultural resources have been previously recorded within one mile of the Project APE. These resources include eight prehistoric archaeological sites, one historic-period archaeological site, two multicomponent archaeological sites, and six prehistoric isolated finds. None of the previously recorded resources are located within or immediately adjacent to the Project APE.

PaleoWest also requested a search of the Sacred Lands File (SLF) from the NAHC. Results of the SLF search indicated that there is a known Native American cultural resource(s) within the immediate Project area. The NAHC recommended the Santa Ynez Band of Mission Indians should be contacted for further information. Additionally, the NAHC recommended that five other Native American tribal groups be contacted to find out if they have additional information about the Project area. Mona Tucker, Chairperson of the yak tityu tityu tilhii Northern Chumash Tribe, stated that the Project area is outside of her ancestral territory and cannot provide comment. Patrick Tumamait of the Barbareno/Ventureno Band of Mission Indians indicated that he has no concerns or comments regarding the Project. Julie Tumamait-Stenslie of the Barbareno/Ventureno Band of Mission Indians recommended if Native American monitoring occurs it should be conducted by experience Chumash monitors. The Santa Ynez Band of Chumash Indians were called twice regarding the results of the SLF; however, to date, no response has been received. No other responses were received.

PaleoWest conducted a survey of the proposed Project APE on June 28, 2019. No cultural resources were identified during the reconnaissance survey of the Project area; however, a potentially significant Chumash ceremonial site has been identified just over a half-mile from Project APE. Additionally, the majority of the archaeological resources within the immediate vicinity are prehistoric. Due to the close proximity to a potentially significant prehistoric site, the density of prehistoric resources, and general archaeological sensitivity of the area, PaleoWest recommends that an archaeological monitor and a Native American monitor should be present during ground disturbing activities to ensure the Project does not inadvertently impact any significant cultural resources. As mentioned previously, the Barbareno/Ventureno Band of Mission Indians recommended if Native American monitoring occurs it should be conducted by experience Chumash monitors.

# 1.0 INTRODUCTION

---

The City of Solvang (City) Wastewater Treatment Plant (WWTP) proposes to improve the operational efficiency of its water quality treatment (Project) in Solvang, Santa Barbara County, California.

PaleoWest Archaeology (PaleoWest) was contracted by Meridian Consultants, LLC, to conduct a Phase I cultural resource assessment of the 17-acre Project Area of Potential Effect (APE) in compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA). The City is the Lead Agency for the purposes of the CEQA. The Regional Water Quality Control Board (RWQCB) is the Lead Agency for the purposes of the Section 106.

## 1.1 PROJECT LOCATION AND DESCRIPTION

The Solvang WWTP is located off of Alisal Road immediately adjacent to the Happy N Ranch along the Santa Ynez River in Solvang, Santa Barbara County, California. The Project APE is composed of the entire plant facility as well as the proposed additional land to the south/southwest, which encompasses approximately 17.3 acres. The Project APE is located south of State Route 246, east of Alisal Road, on the south side of the river (Figure 1-1). The Project area is situated within Section 21 and the Nojoqui land grant, Township 3 North, Range 31 West, San Bernardino Baseline and Meridian (SBBM), as depicted on the Solvang, CA 7.5' U.S. Geological Survey (USGS) topographic quadrangle (Figure 1-2). The elevation of the Project area ranges between 360 and 420 feet above mean sea level (amsl).

The City intends to restore the lost treatment capacity at its WWTP through treatment upgrades and the expansion for the WWTP to meet the effluent discharge requirements of the Central Coast Regional Water Quality Control Board as part of the renewal of the City's Waste Discharge Permit (WDP).

The City WWTP collects, treats, and disposes of municipal wastewater generated by the City and by the community of Santa Ynez. As part of ongoing WWTP operations, the City has been modifying operational measures to implement the new requirements and improve effluent quality. The additional treatment has caused the overall treatment capacity of the WWTP to decrease, due to high nitrogen loading in the wastewater resulting from water conservation (the WWTP now has an estimated capacity of 0.9 million gallons per day (MGD), a 0.6 MGD reduction in capacity). The City is looking to restore the lost capacity by investigating the feasibility of treatment upgrades and the expansions for the facility.

The proposed WWTP Water Quality Project ("proposed Project") includes improvements to restore lost treatment capacity, achieve required consistent removal of nitrogen, address existing WWTP deficiencies, and replace old facilities that have reached the end of their useful life. The improvements to restore lost capacity will also modify the treatment process to allow for future production of recycled water. Three different treatment alternatives are being considered to meet the effluent discharge requirements of the WDP.

Approximately 2.3 acres of additional land would be acquired to accommodate proposed and future equipment and facilities, provide improved site access and maneuverability, provide for possible future recycled water storage and distribution facilities, and future solar panels for any of the three alternatives. A new Admin/Lab building will be constructed at the upper (south) end of the WWTP to provide better accessibility, security, process control, and emergency response. A new sludge building would be constructed in place of the existing sedimentation tanks and the existing belt press would be relocated to

this new sludge building. To effectively facilitate process improvements and possible future expansions, existing deficiencies must be addressed, and the general site conditions must be enhanced with ancillary improvements. This includes installation of new blowers, aerators, mixers, generator, sludge sump pumps, and integration for the new equipment controls and communication systems. To provide adequate truck entry, the existing access road would be extended and looped to enhance access for truck traffic and equipment maintenance, and to facilitate collection and transport of solids from the new sludge dewatering building. The new portion of the looped access road, at the northeast corner of the WWTP site would be paved. The new looped access road would also improve security and emergency response.

Construction of the proposed Project is expected to begin in the summer of 2020 and would be completed within approximately 34 months. Maximum depth of disturbance to accommodate the new treatment facilities would be 25 feet below ground surface for equalization basin and/or clarifiers.

Approximately 15 pepper trees and three (3) coast live oak trees would be removed to accommodate the improved access road. All removed trees would be replaced at a 2 to 1 ratio with native drought-tolerant trees and watered with a temporary drip irrigation system until established.

### 1.1.1 Treatment Improvements

The following three treatment improvement alternatives for the proposed WWTP improvements:

- Alternative 1 would utilize SBRs for secondary treatment processes,
- Alternative 2 would utilize clarifiers for secondary treatment processes, and
- Alternative 3 would utilize membrane bioreactors (MBRs) for secondary treatment processes.

Each of these are discussed in detail below.

#### *Alternative 1*

Alternative 1 involves the continued use of SBRs for secondary treatment processes and would include an anoxic/equalization basin with equalization pumps that would connect to the existing influent pipeline; an existing waste activated sludge (WAS) pipeline to the new sludge building constructed in place of the existing sedimentation tanks; and an existing belt press relocated to this new building. To prepare for future use, a new concrete shell for a 4<sup>th</sup> future SBR will be constructed next to a newly-constructed surge basin and filters.

A new effluent pipeline would connect the filters to a chlorine contact/recycled water storage tank for tertiary treatment processing. A recycled water pump station would be constructed next to the tertiary process housing structure.

#### *Alternative 2*

Alternative 2 involves converting the existing SBRs to a continuous flow process with secondary treatment trains that are 1/3 anoxic and 2/3 aerobic to improve denitrification. Alternative 2 also includes construction of two new secondary clarifiers to allow for solids separation. The new clarifiers would be 80 feet in diameter, with 15-foot side walls, and 18 feet to the bottom at the center.

A clarifier feed pump station will be provided to house feed pumps, return activated sludge (RAS)/WAS pumps, and automated valves. The pump station will receive secondary mixed liquor (MLSS) from the aeration tanks and pump MLSS into the clarifiers as well as convey the clarifier underflow back into the anoxic tank for recycling. If recycled water is desired, clarifier effluent will be conveyed to the filters via gravity flows. The existing SBR basins will be subdivided and modified with interior walls to create anoxic and aerobic basins. New submersible mixers will be added to the anoxic basins.



The approximately 2.3 acres of additional land would be required to accommodate the two new clarifier basins, provide improved site access and maneuverability, and to provide space for possible future recycled water storage and distribution facilities. Alternative 2 includes approximately 5,500 cubic yards of excavation and 2,500 cubic yards of fill on site.

### *Alternative 3*

Alternative 3 involves converting the existing SBRs to a continuous flow process with secondary treatment trains that are 1/3 anoxic and 2/3 aerobic to improve denitrification. The existing SBR basins will be subdivide and modified with interior walls to create anoxic and aerobic basins. New submersible mixers will be added to the anoxic basins. In addition to converting the SBRs into secondary treatment trains Alternative 3 includes the installation of new membrane bioreactors (MBRs) in a new housing structure and a new equipment/chemical building to facilitate the MBR operations. The new MBR housing structure and the equipment/chemical building will be constructed on the lower side of the site using common-wall construction adjacent to the existing SBRs, requiring less concrete for construction. The new MBRs with their 2-millimeter fine screens will be installed next to the secondary process tank.

Alternative 3 includes approximately 1,000 cubic yards of excavation and 2,500 cubic yards of fill to occur on site.

### *Future Recycled Water*

In the future, the City wishes to produce recycled water for landscape irrigation or direct potable reuse. Chlorine would be injected in the filtered tertiary effluent and stored in a recycled water storage tank. The existing 0.1 MG aerobic digester could be renovated and repurposed as a recycled water storage tank and chlorine contact chamber.

A new recycled water pump station would pump tertiary effluent from the converted storage tank to a new recycled water distribution system. If the City decides to pursue recycled water, the polishing pond would be emptied and converted into emergency storage for major storm events. Plant effluent would be discharged into the other two percolation ponds.

As part of the new recycled water distribution system, recycled water pipeline is proposed for installation from the existing WWTP west across the adjacent Alisal Ranch property to existing waterline infrastructure within Alisal Road. Two conceptual alignments are proposed to connect the WWTP to existing waterline infrastructure in Alisal Road. The recycled water lines would consist of a 12-inch diameter polyvinyl chloride (PVC) pipeline installed within a 2-foot-wide trench. The average trench depth would be approximately 5.5 feet below ground surface. Depending on the depth of adjacent utility lines, the trench depth would range from 3.5 feet to 10 feet below ground surface. An excavator would be used for trench excavation, laying pipe, backfilling the trench, and compaction. Dump trucks and pipe delivery trucks would travel along the surface adjacent to the trench to remove trench spoils, deliver sand bedding, and deliver new pipe to support the pipeline installation.

### Proposed Recycled Pipeline Alignment 1

Alignment 1 would begin at the existing WWTP and extend west through the northern portion of the adjacent agricultural field and then traverse south to cross the existing access road to the facility. The recycled water pipeline would then continue east to Alisal Road through an existing and maintained dirt road approximately 16 feet wide.

### Proposed Water Pipeline Alignment 2

Alignment 2 would also begin at the existing WWTP and extend west through the northern portion of the adjacent agricultural field, then southeast to cross the existing access road to the facility. The recycled water pipeline would be horizontally drilled beneath the existing hill adjacent to the east of Alisal Road.

## 1.2 AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) refers to the geographic area within which the Project has the potential to directly or indirectly cause alterations to historic properties. The APE for the Project was defined to include the existing Plant facility, the 2.3 acres of land proposed to be added to the facility, the maximum potential disturbance areas that may be used for equipment staging and laydown areas, and the two proposed recycled pipeline alignments (Figure 1-3). The proposed additional land is located to the south/southwest of the existing fenced facility. The maximum potential disturbance areas include small areas to the southwest. The two recycled pipeline alignment extend southeast of the existing facility to Alisal Road. No work is proposed beyond the proposed APE. The APE for the Project encompasses approximately 17 acres. Ground disturbance is not expected to exceed 25-feet below ground level within the existing facility, additional land, and maximum potential disturbance areas. Within the proposed pipeline alignments, ground disturbance is not expected to exceed 10-feet below ground level; however, if the second alignment is chosen horizontal drilling into the existing hill adjacent to Alisal Road is proposed rather than trenching.

## 1.3 REPORT ORGANIZATION

This report documents the results of a cultural resource investigation conducted for the proposed Project. Chapter 1 has introduced the project location and description and defined the APE. Chapter 2 states the regulatory context for the Project. Chapter 3 synthesizes the natural and cultural setting of the Project area and surrounding region. The results of the cultural resource literature and records search conducted at the Central Coastal Information Center (CCIC) and the Sacred Lands File (SLF) search, and a summary of the Native American communications is presented in Chapter 4. The field methods employed during this investigation and findings are outlined in Chapter 5 with management recommendation provided in Chapter 6. This is followed by bibliographic references and appendices.

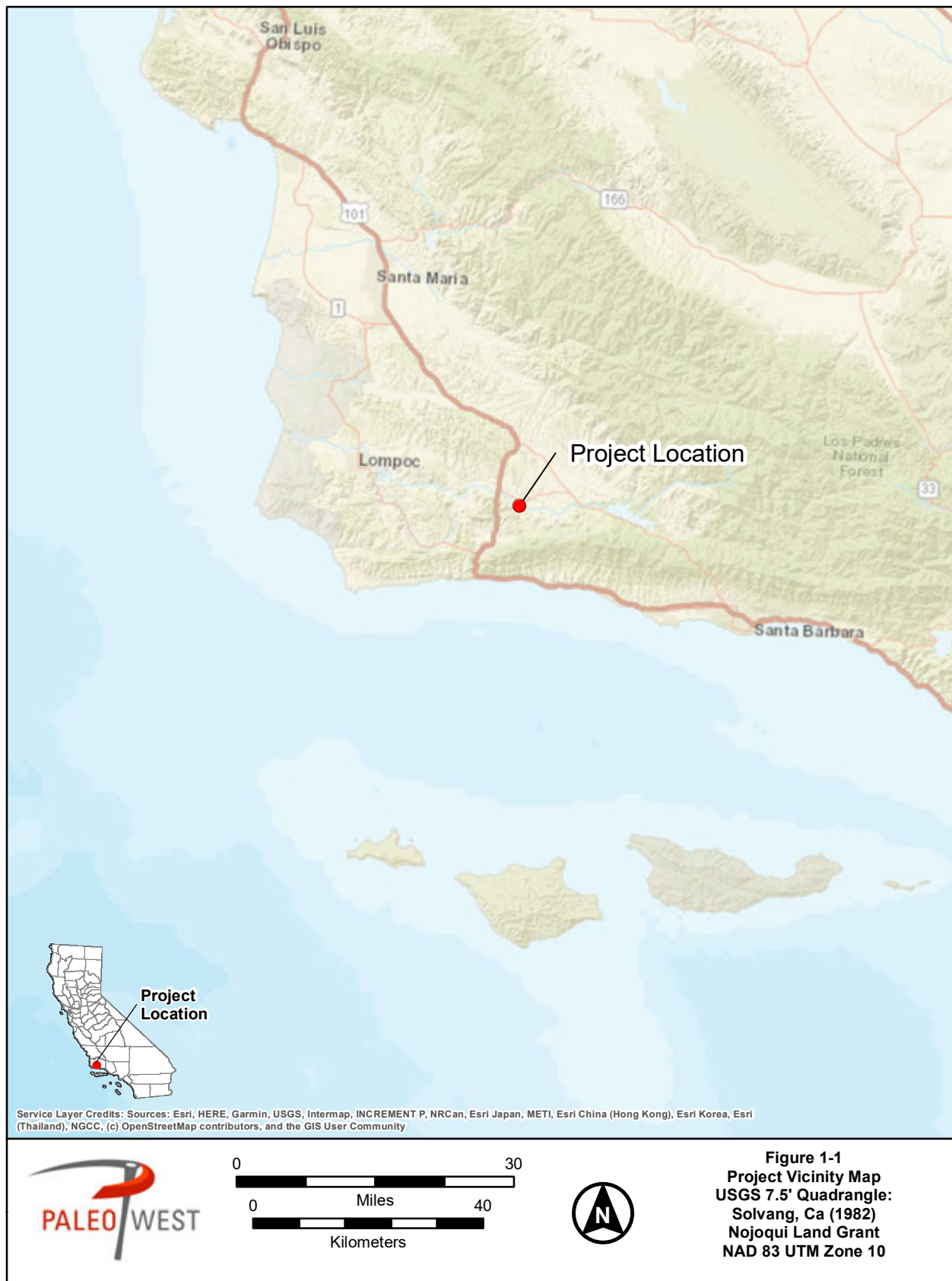


Figure 1-1 Project Vicinity Map



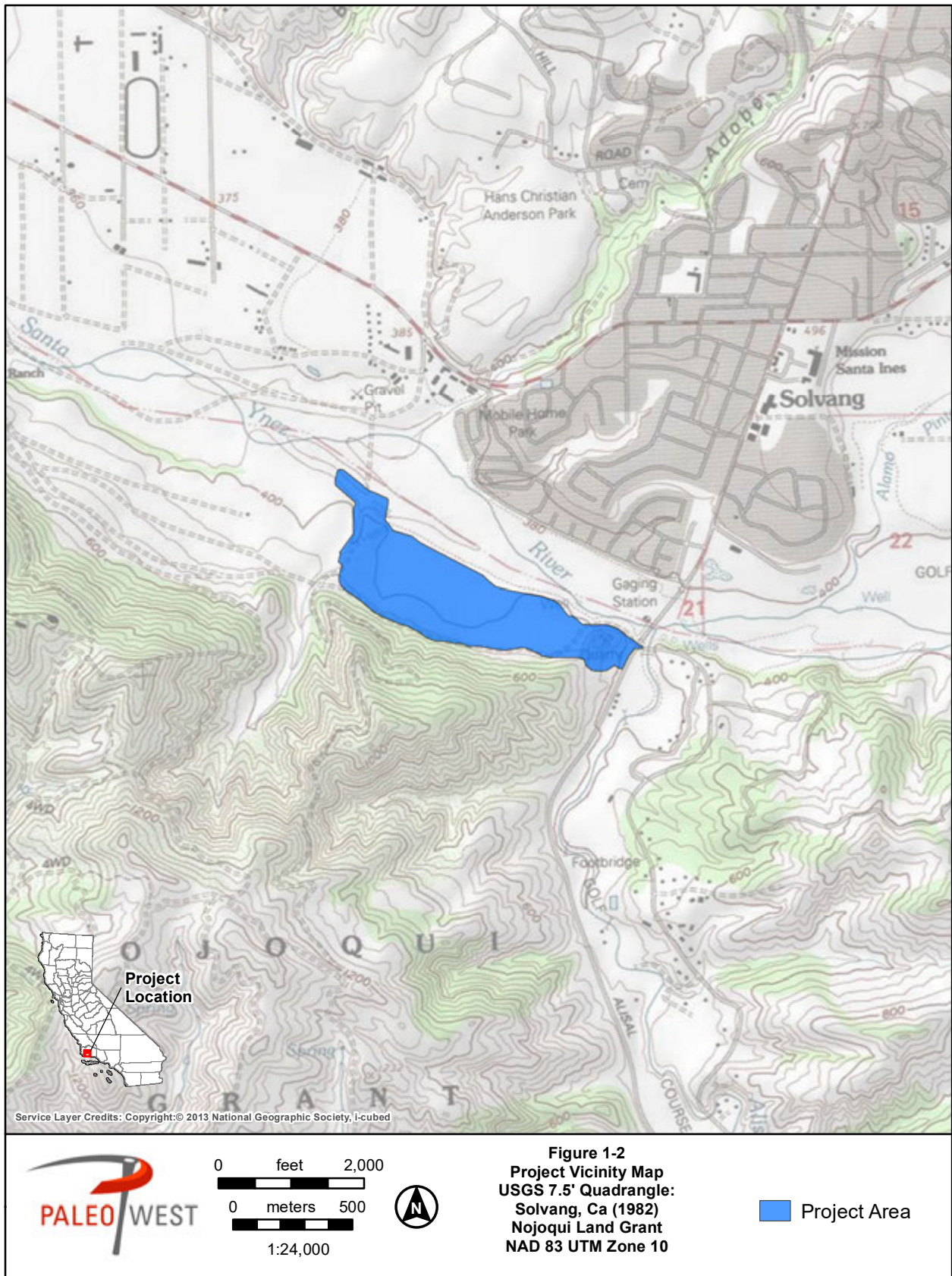
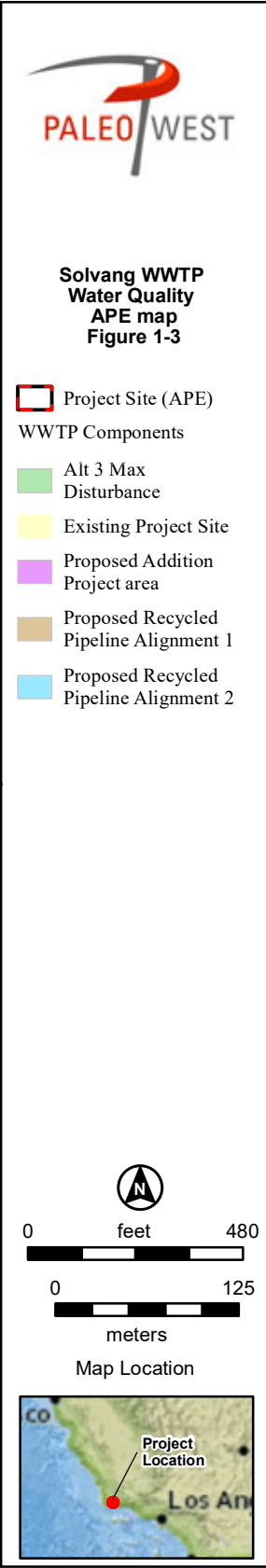
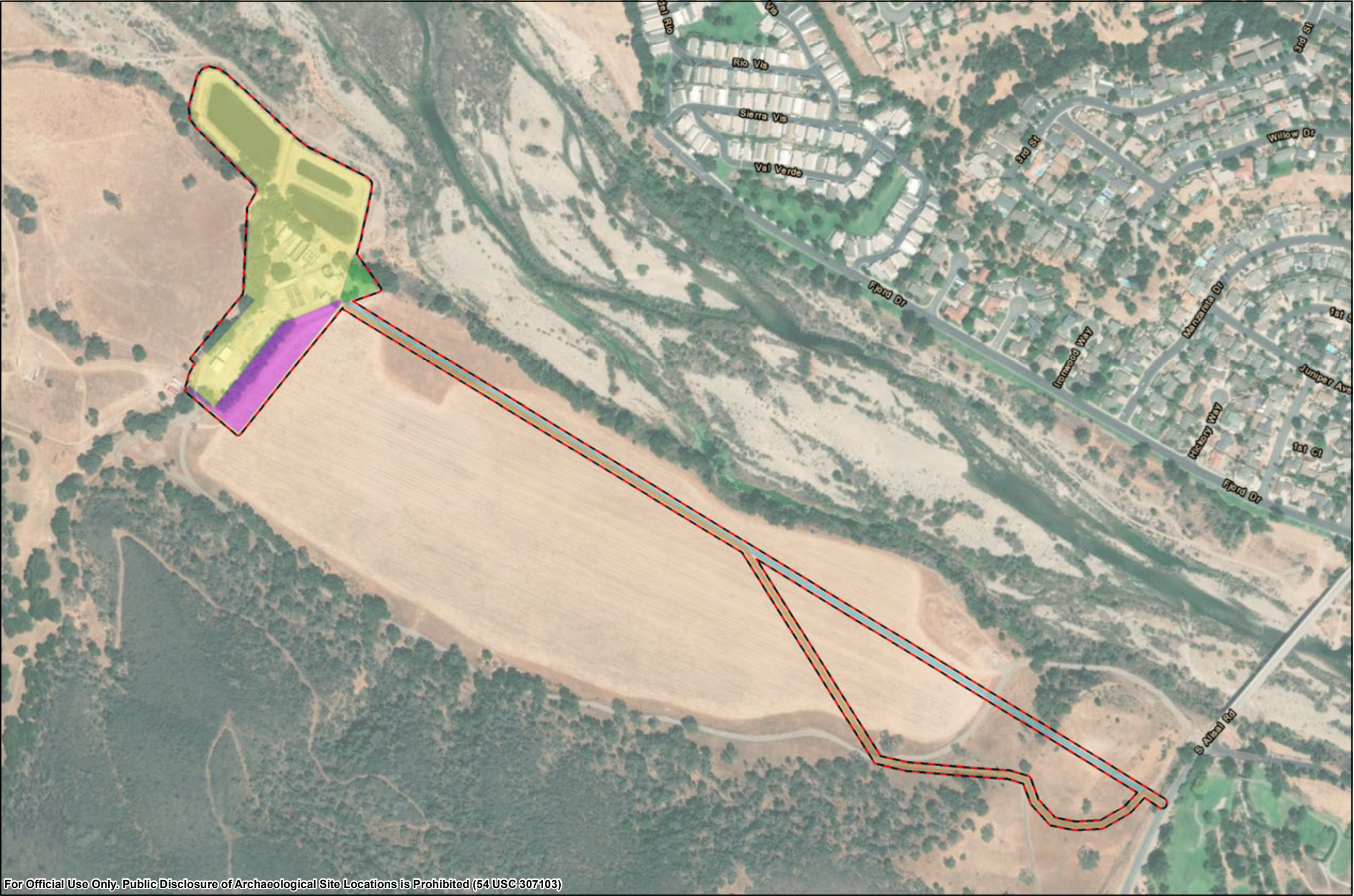


Figure 1-2 Project Location Map





For Official Use Only. Public Disclosure of Archaeological Site Locations is Prohibited (54 USC 307103)

Figure 1-3 Project APE Map



## 2.0 REGULATORY CONTEXT

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### 2.1 NATIONAL HISTORIC PRESERVATION ACT

The proposed Project is subject to compliance with Section 106 of the NHPA, as amended. The NHPA, established in 1966, requires Federal agencies to take into account the effects of their undertakings on “historic properties” (i.e., cultural resources eligible for or listed on the National Register of Historic Places [NRHP]), which is done through the Section 106 process as established in 36 CFR Part 800. The NHPA established a national policy for historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the federal, state, and local levels.

### 2.2 NATIONAL REGISTER OF HISTORIC PLACES

The NRHP, created under the NHPA, was established as “an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment” (36 CFR 60.2). The NRHP identifies properties that are significant at the national, state, and local levels. Resources listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, prehistory, architecture, archaeology, engineering, and culture.

To guide the selection of properties included in the NRHP, the National Park Service has developed the NRHP Criteria for Evaluation. The criteria are standards by which every property that is nominated to the NRHP is evaluated. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- A) A property is associated with events that have made a significant contribution to the broad patterns of our history; or
- B) A property is associated with the lives of persons significant in our past; or
- C) A property embodies the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components lack individual distinction; or
- D) A property has yielded, or may be likely to yield, information important in prehistory or history (36 CFR Part 60).

If a cultural resource is determined to be an eligible historic property under 36 CFR Part 60.4, then Section 106 requires that the effects of the proposed undertaking be assessed and considered in planning the undertaking. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

### 2.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed Project is subject to compliance with CEQA, as amended. Compliance with CEQA statutes and guidelines requires both public and private projects with financing or approval from a public agency to assess the project’s impact on cultural resources (Public Resources Code Section 21082, 21083.2 and

21084 and California Code of Regulations 10564.5). The first step in the process is to identify cultural resources that may be impacted by the project and then determine whether the resources are “historically significant” resources

CEQA defines historically significant resources as “resources listed or eligible for listing in the California Register of Historical Resources (CRHR)” (Public Resources Code Section 5024.1). A cultural resource may be considered historically significant if the resource is 45 years old or older, possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and meets any of the following criteria for listing on the CRHR:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
4. Has yielded, or may be likely to yield, information important in prehistory or history (Public Resources Code Section 5024.1).

Cultural resources are buildings, sites, humanly modified landscapes, traditional cultural properties, structures, or objects that may have historical, architectural, cultural, or scientific importance. CEQA states that if a project will have a significant impact on important cultural resources, deemed “historically significant,” then project alternatives and mitigation measures must be considered. Additionally, any proposed project that may affect historically significant cultural resources must be submitted to the State Historic Preservation Officer (SHPO) for review and comment prior to project approval by the responsible agency and prior to construction.

## 2.4 CALIFORNIA ASSEMBLY BILL 52

Signed into law in September 2014, California Assembly Bill 52 (AB 52) created a new class of resources – tribal cultural resources – for consideration under CEQA. Tribal cultural resources may include sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe that are listed or determined to be eligible for listing in the CRHR, included in a local register of historical resources, or a resource determined by the lead CEQA agency, in its discretion and supported by substantial evidence, to be significant and eligible for listing on the CRHR. AB 52 requires that the lead CEQA agency consult with California Native American tribes that have requested consultation for projects that may affect tribal cultural resources. The lead CEQA agency shall begin consultation with participating Native American tribes prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. Under AB 52, a project that has potential to cause a substantial adverse change to a tribal cultural resource constitutes a significant effect on the environment unless mitigation reduces such effects to a less than significant level.

## 3.0 SETTING

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This section of the report summarizes information regarding the physical and cultural setting of the Project area, including the prehistoric, ethnographic, and historic contexts of the general area. Several factors, including topography, available water sources, and biological resources, affect the nature and distribution of prehistoric, ethnographic, and historic-period human activities in an area. This background provides a context for understanding the nature of the cultural resources that may be identified within the region.

### 3.1 ENVIRONMENTAL SETTING

The Project area is located along the southern bank of the Santa Ynez River in Adobe Canyon north of the Santa Ynez Mountains. The Santa Ynez Mountains are part of the Western Transverse Ranges. The general area in the vicinity of the Project is comprised of upland river terraces of alluvium deposited during the Pleistocene and lowland areas containing low-lying river terraces composed of recent alluvium. The dominant plant community in the vicinity of the Project area is coastal sage scrub. Coastal sage scrub is characterized by low-growing, drought-deciduous shrubs that have adapted to the semi-arid Mediterranean climate of coastal lowlands of Southern California. Common flora found within a coastal sage scrub community consist of California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), California buckwheat (*Eriogonum fasciculatum*), coast brittle-bush (*Encelia californica*), golden yarrow (*Eriophyllum confertifolium*), and lemonade berry (*Rhus integrifolia*).

### 3.2 PREHISTORIC SETTING

The prehistory of California's central coast spans the entire Holocene and may extend back to late Pleistocene times. The most widely used chronological sequence in the Project vicinity distinguishes Early, Middle, and Late periods. It was initially outlined by King (1981) and later revised to include additional radiocarbon dates (King 1990) and to incorporate refinements in our understanding of cultural developments (Arnold 1992).

In Malibu and in the Santa Barbara Channel region, the discovery of fluted projectile points indicates human use of the area possibly as early as 13,000 years ago (Erlandson et al. 1996; Stickel 2010), while sites on San Miguel and Santa Rosa islands have yielded radiocarbon dates older than 10,000 years (Erlandson 1991; Johnson et al. 2001). However, few known sites date to this earliest period (i.e., pre-10,000 years before present [B.P.]), suggesting low population densities, they tend to be located on elevated landforms, and their presence on the Northern Channel Islands indicates early knowledge and use of marine resources. Diagnostic tools associated with this time period have not been identified and cultural assemblages dating to this period have fewer of the grinding implements common to subsequent periods. Research suggests that inhabitants of this period lived in small groups that had a relatively egalitarian social organization and a forager-type land-use strategy (Erlandson 1994; Glassow 1996; Greenwood 1972; Moratto 1984).

Shortly after 9,000 years ago, sites begin to be characterized by an abundance in milling tools, and the broader subsistence regime, including utilization of plants, terrestrial animals, and shellfish (Glassow 1996; Glassow et al. 1988; Sutton and Gardner 2010). Increasing populations composed of small, dispersed groups with more generalized tool kits, and a mixed subsistence regime indicating a heavier



reliance on shellfish than on fish and terrestrial food sources are also identifiers of the period (Erlandson 1991, 1994, 1997). Burial practices suggest that society was primarily egalitarian (Glassow 1996).

Population densities appear to have decreased substantially between 6500 and 5000 B.P. throughout the region, and little is known about this period. It has been suggested that the arid conditions associated with the Altithermal (a mid-Holocene period of predominantly warm/dry climate) damaged the environment to the point that only low population densities were sustainable (Glassow 1996; Glassow and Wilcoxon 1988).

After 5000 B.P., population densities increased significantly as conditions became cooler and moister. Between 5000 and 3000 B.P., mortars and pestles became increasingly common throughout the region, suggesting intensified use of acorns (Basgall 1987), as well as the possibility of pulpy roots or tubers (Glassow 1997). Large side-notched and stemmed projectile points became more prevalent, presumably reflecting increased hunting.

Cultural complexity appears to have increased around 3000–2500 B.P. Mortuary data research suggests a substantial change in social organization and political complexity during this period (King 1990). According to King, high-status positions became hereditary and individuals began to accumulate wealth and control exchange systems. Arnold (1991, 1992) proposes that this evolutionary step in socioeconomic complexity occurred around 700–800 years ago. Technological innovation as well as a continued increase in cultural complexity marks the period between 2,500 and 800 years ago. Fishing and sea mammal hunting became increasingly important. This corresponds to the development of the *tomol* (plank canoe), single-piece shell fishhooks, and harpoons (Glassow 1996; King 1990). In addition, the bow and arrow was introduced during this period. Utilization of imported obsidian continued to increase during this period as well (Jones et al. 2007).

The predecessors of the ethnographic Chumash, the Canaliño, are associated with a diverse material culture that included triangular projectile points and elaborate industries related to production of flaked stone tools, steatite vessels, shell beads and ornaments, and plank canoes (Rogers 1929). This most recent prehistoric period saw a gradual increase in the use of marine resources, fish and sea mammals, and the development of more complex political and economic systems, including a money economy, during the Middle and Late periods of the general area prehistory (Arnold 1992; King 1990; Landberg 1965; Rogers 1929; Wallace 1955).

### 3.3 ETHNOGRAPHIC SETTING

The Santa Ynez Valley, including the city of Solvang, falls within the traditional territory of the Ynezefio Chumash Indians of California (Kroeber 1953, Heizer 1978). The Chumash have lived along the southern and central coast of California for more than 9,000 years and maintain a strong and unique cultural identity. The Chumash at the time of contact inhabited villages and towns in coastal and inland areas extending from the Santa Monica Mountains in the south to Paso Robles in the north as well as the Northern Channel Islands. Early Spanish expeditions to the Santa Barbara Channel area encountered heavily populated villages along the Santa Barbara/Goleta coast, some with as many as 800–1,000 residents. However, typical villages in Chumash territory were significantly smaller than the populous ones flanking Goleta Slough. Interior mainland areas were more sparsely populated, although several larger communities existed in these areas as well (Johnson 1988). The closest known ethnohistoric village was located upstream along the Santa Ynez River, and was known as Kalwashaq', which is translated as "shell of the turtle" (Applegate 1975).

Contact-era hunter-gatherer Chumash culture included a wide array of subsistence foods; well-developed technology and elaborate crafts; and an active exchange system linking island, mainland coast, and interior zones (King 1976). Chumash political traditions were centered on permanent, largely autonomous settlements. Strength of inter-village ties varied and appears to have depended at least in part on the community's size, geographical position relative to trade routes and social networks, and the level of personal influence wielded by individual political leaders. Shifting patterns of inter-village animosities and alliances are also recorded (Johnson and McLendon 1999:29–35).

The material culture of the Chumash included a wide array of utilitarian items such as fishing nets, woven mats, baskets, shell and bone fishhooks, cooking slabs, digging stick weights, and projectile points; finely made ornaments and bead types used in a variety of social, economic, and political contexts; and charmstones and other objects used for ritual and ceremonial purposes. Stone bowls, mortars, and other utilitarian objects were sometimes decorated with asphaltum inlaid with shell beads (Hudson and Blackburn 1982–1987).

Introduced European diseases took heavy tolls on the Native American populations. After 1770, survivors from some towns left to join larger communities associated with cattle ranches of Spanish settlers. Ventureño Chumash of the Santa Monica Mountains were among the last mainland populations to join the missions. However, by 1809, a majority of them had relocated to the missions at San Buenaventura and San Fernando (King and Johnson 1999).

### 3.4 HISTORICAL SETTING

Spanish settlement of Alta California began in 1769, with the establishment of a presidio and mission near San Diego. In 1770, a second presidio and mission were located in Monterey. These two settlements were used as bases from which to colonize the rest of California. The Spanish also laid out pueblos, or towns along the coast. While much of the land in California was under the supervision of the Spanish missions, the Spanish Crown granted lands to those who had served the government. The Spanish founded the Santa Barbara presidio in 1782, and the mission four years later.

Mexico achieved independence from Spain in 1821. The mission system was continued under Mexican rule until 1833, when the Secularization Act was passed (Cleland 1978). Under this act, mission ownership was withdrawn from the Catholic Church, and land grants, also known as *ranchos*, were distributed amongst the prominent and wealthy families of Mexico and to reward soldiers for their service during the revolution. The agricultural-based economy established under the Spanish/Catholic Church regime continued to prosper. Between 1835 and 1846, more than 600 land grants in Alta California were recorded with the Mexican government.

The historic era along the Santa Barbara coast began with the arrival of Europeans in the sixteenth century. Following this contact, 21 missions were established in California between 1769 and 1823. Five of these missions were in areas inhabited by the Chumash. Establishment of the missions led to the incorporation of the Chumash into mission enclaves and the gradual abandonment of native Chumash villages and settlements. Construction of El Presidio de Santa Barbara in 1782 and Mission Santa Barbara in 1786 marked the beginning of Spanish occupation in the Santa Barbara Channel region. During the Spanish Period (1769–1822) some lands held by the missions were granted to Spanish military veterans. These land grants foreshadowed the subsequent Rancho Period (1822–1866) in California (Robinson 1948:45–53).

The Project area is situated within what was Rancho Nojoqui, a 13,284-acre Mexican land grant bounded by the Santa Ynez River and the larger Rancho San Carlos de Jonata to the north, as well as Rancho Lomas de la Purificacion to the east and the Santa Ynez Mountains to the south [1]. This land was granted in 1843 by Governor Manuel Micheltorena to Raimundo Carrillo. Carrillo was a grandson of Jose Raimundo Carrillo, a soldier during the Portola Expedition of 1769-1770 who would later become commandante of the Presidio of San Diego in 1807 (Willy 1886). This land grant was ultimately patented by the United States on September 11, 1869. Before this time, in 1855, Ulpiano Yndart purchased Rancho Nojoqui and raised cattle upon it until the dry seasons of 1862-1864 left him in financial ruin. Ultimately, Ulpiano Yndart was elected to the city treasurer position in Santa Barbara Mason 1883: 232). The Rancho was sold to H. William Pierce in 1868. It appears that William Pierce was deceased by the late summer of 1873 as indicated by a court case at that time where a relative substitutes for him (Santa Barbara Weekly Press 1873). It appears that Ira Pierce (likely a relative of William Pierce) owned the Alisal Ranch of Santa Barbara County throughout the 1880s and 1890s. This ranch was a combination of the Nojoqui, Tequipas, and San Marcos Ranches- which appears, on an 1889 map of Santa Barbara County, to encompass much of the land between the Santa Ynez River to the north and the Santa Ynez Mountains to the south, and bounded by the Nojoqui Creek to the west and Gyole Creek to the east (Riecker 1889). This ranch was utilized for horse breeding and development, with a few contemporary trotting horses of renown having been bred at the ranch (Los Angeles Herald 1892).

Articles and advertisements in local newspapers in the last two decades of the 19th century promote the excellent weather and growing conditions of the Santa Ynez Valley. With large amounts of land available, "colonies" were encouraged to settle the area and start communities. This was inspired by the purchase of two ranchos by the Lompoc Valley Land Company that would parcel out and sell acreage under the condition that no intoxicating drinks were to be manufactured or sold on land purchased by the Land Company. This land would become the Temperance Colony of Lompoc (Santa Barbara Daily Press 1876).

North of the Project area and the Santa Ynez River, much of the Rancho San Carlos de Jonata was purchased by the Danish-American Colony Corporation in 1911. The dream of three Danish immigrants (Reverend Benedict Nordentoft, Reverend J.M. Gregersen, and Professor P.P. Hornsyld), the land was subdivided into plots for farms, homes, and a town for Danish immigrants. A Danish approach to religion and education based upon the ideas of 19th century philosopher and Lutheran pastor N.F.S. Grundtvig was used as a model for the community. This included the construction of a folk school designed for young adults that included courses in Danish arts and crafts, singing, folk dancing, gymnastics, bookkeeping, history, as well as English and Danish language classes (History of Solvang 2019). Today this community is known as the town of Solvang and still exhibits the rich Danish roots on which it was founded.

Ultimately, the 11,000-acre Alisal Ranch was surveyed and divided into tracts of 700 to 1,000 acres and offered for sale in 1921. This was done by then-owner J. L. Murphey, a lawyer living in Los Angeles who encouraged development in the area (Morning Press 1921).

## 4.0 CULTURAL RESOURCES INVENTORY

A literature review and records search was conducted at the CCIC, housed at the University of California, Santa Barbara, on June 17, 2019. This inventory effort included the Project APE and a one-mile radius around the Project APE. The objective of this records search was to identify prehistoric or historical cultural resources that have been previously recorded within one mile of the Project APE during or cultural resource investigations.

### 4.1 PREVIOUS CULTURAL RESOURCE INVESTIGATIONS

The records search results indicate that four previous investigations have been conducted and documented that include portions of the Project APE since 1976 (Table 4-1). As a result, approximate 20 percent of the Project APE has been previously investigated by these studies.

**Table 4-1**  
**Previous Cultural Studies that Intersect the Project APE**

Report No.	Date	Author(s)	Title
SR-00482*	1976	Hoover, R. and Spanne, L.	Archaeological Evaluation of the Santa Ynez Sewerage Facilities.
SR-01802	1995	Singer, C.	Cultural Resources Survey and Impact Assessment for the Buellflats Annexation EIR, Santa Barbara County, California
SR-04935	2013	Erin A. Enright and Clayton G. Lebow	Extended Phase 1 Archaeological Investigation for 484 Hwy 101 (Assessor's Parcel No. 134-270-034), Gary and Lisa Novatt, Santa Barbara County, California
SR-05002	2012	Stone, David	Archaeological Survey Report, Wastewater Treatment Plant (WTP) and Well 7A, Reinforced Vegetated Slope Protection Project, City of Solvang, California

### 4.2 CULTURAL RESOURCES REPORTED WITHIN ONE MILE OF THE PROJECT APE

The records search results also indicated that 31 cultural resources have been previously recorded within one mile of the Project APE (Table 4-2). These resources include 11 prehistoric archaeological sites, 4 historic-period archaeological sites, 4 multicomponent archaeological sites, 1 historic-period district, 8 prehistoric isolated finds, and 1 historic-period isolated find. One of the previously recorded sites is located within the Project APE, P-42-004081/CA-SBA-4081/H.. This prehistoric archaeological site has been identified as a Traditional Cultural Property (TCP) and a sacred site in accordance with the NAHC. This archaeological site is described in more detail in the following section. Each resource is briefly described in Table 4-2, below.

**Table 4-2**  
**Cultural Resources Recorded within 1-Mile of the Project APE**

Primary No.	Trinomial	Type	Age	Description
P-42-000518	CA-SBA-000518	Site	Historical	Santa Ynez Mission, built in 1804; Native American habitation debris
P-42-000548	CA-SBA-000548	Site	Prehistoric	Sparse lithic scatter
P-42-000830	CA-SBA-000830	Site	Prehistoric, Historical	Scatter of shell and grinding implements; likely mission period

**Table 4-2**  
**Cultural Resources Recorded within 1-Mile of the Project APE**

Primary No.	Trinomial	Type	Age	Description
P-42-000831	CA-SBA-000831	Site	Prehistoric	Sparse scatter of chert flakes (completely destroyed)
P-42-000832	CA-SBA-000832	Site	Prehistoric, Historical	Major historic adobe site (Yndart Adobe) and prehistoric village and cemetery.
P-42-000878	CA-SBA-000878	Site	Prehistoric	Sparse lithic scatter
P-42-002130	CA-SBA-002130	Site	Prehistoric	Lithic scatter; flaked and ground stone artifacts
P-42-002359	CA-SBA-002359	Structure	Historical	Hayne Adobe; Mexican-style adobe complex, originally constructed in 1882-1884
P-42-002563	CA-SBA-002563	Site	Protohistoric Historical	Tanning vat structure and cultural deposits associated with Mission Santa Ines and later Anglo-American occupation
P-42-002600	CA-SBA-002600	Site	Prehistoric	Moderate to low density scatter of flakes, flake tools, and a single groundstone artifact
P-42-002641	CA-SBA-002641	Site	Prehistoric	Sparse lithic scatter
P-42-002643	CA-SBA-002643	Site	Prehistoric	Lithic scatter; flaked and ground stone artifacts
P-42-002685	CA-SBA-002685H	Structure	Historical	Three routes of the San Marcos Pass Road; First Stagecoach Route (1869-1880s), Second Stagecoach Route (1880s-1930s), and Modern Highway (1931-present)
P-42-002707	CA-SBA-002707	Site	Prehistoric	Complex lithic scatter likely associated with Mission Period Native American occupation due to its close proximity to Mission Santa Ines and several Mission Period Native American settlements
P-42-002708	CA-SBA-002708	Site	Historical	Remains of a single residential structure with associated domestic debris and subsurface Mission Period tiles (ladrillos) supported by a foundation of small cobbles, and portions of a wooden plank floor
P-42-002727	CA-SBA-002727	Site	Prehistoric	Sparse lithic scatter
P-42-002728	CA-SBA-002728	Site	Historical	Mission/Fremont Trail; historically-reconstructed route of the ca. 1800 trail from Santa Barbara Mission to the Santa Ynez Valley (the Arrastra Dera road) and the Mission road from the San Marcos Rancho to Mission Santa Ines
P-42-003753	CA-SBA-003753	Site	Prehistoric	Sparse lithic scatter
P-42-004001	CA-SBA-004001	Site	Prehistoric	Sparse lithic scatter
P-42-004081*	CA-SBA-004081/H	Site	Prehistoric, Historical	Traditional Cultural Property; Sacred/Power Area and Worship/Ritual Site; Napamu' Shrine and Mission Saint Ines Lime Quarry
P-42-038471		Isolate	Prehistoric	Sandstone mano fragment
P-42-038472		Isolate	Prehistoric	Franciscan chert secondary flake
P-42-038554		Isolate	Prehistoric	Unifacial mano
P-42-038556		Isolate	Prehistoric	Utilized flake of green Franciscan chert
P-42-038564		Isolate	Prehistoric	Unifacially flaked Franciscan chert fragment
P-42-038566		Isolate	Prehistoric	Biface fragment of Franciscan chert
P-42-038567		Isolate	Prehistoric	Franciscan chert uniface and Monterey chert flake
P-42-038570		Isolate	Prehistoric	Secondary Franciscan chert flake with cortex

**Table 4-2**  
**Cultural Resources Recorded within 1-Mile of the Project APE**

Primary No.	Trinomial	Type	Age	Description
P-42-038577		Isolate	Historical	A blue transferware ceramic saucer, brown bottle neck fragment, and green glass bottle neck fragment
P-42-040664		Site	Historical	Mission Santa Ines
P-42-040727		District	Historical	Town of Solvang; Danish colonists settled the area in 1911

\*Indicates the resources is located within the APE

#### 4.2.1 P-42-004081 / CA-SBA-4081/H

The resource consists of an ethnographically documented shrine hill (Napamu') that likely had a shrine (sawi'l) at the summit for ceremonial purposes and rituals as well as a possible dance floor and ceremonial preparation areas nearby. This resource contains both prehistoric and historic-period components, and was recorded by Laurence Spanne in 2012. According to Spanne, the site qualifies as a Traditional Cultural Property (TCP) and is registered with the NAHC as a Sacred/Power area and Worship/Ritual site. This site is considered significant to the Santa Ynez Band of Chumash Indians. Spanne stated he is “of the strong opinion that this site is eligible for nomination to the National Register of Historic Places because ‘it is associated with events that have made a significant contribution to the broad patterns of our history’ (relative to the construction of Spanish Missions in California) and because the property ‘has yielded, or is likely to yield, information important in prehistory or history’” (Spanne 2012). He also indicated this property was an integral part of the nearby Mission Santa Ines, which is already listed in the NRHP as a National Historic Landmark, strongly reinforcing the argument for a determination of eligibility and eventual listing on the NRHP. Spanne also indicated this site is the only known example of a river shrine in this area. It is located at the intersection of the river and a potentially important trail that led from the Santa Ynez Valley to the coast.

According to Spanne, the Chumash have not had access to this site since the Mission Period, when worship at such sites was strongly discouraged by the Franciscan Missionaries, because the property has been under private ownership since that time.

### 4.3 ADDITIONAL SOURCES

Additional sources consulted during the cultural resource literature review and records search include the National Register of Historic Places, the Office of Historic Preservation Archaeological Determinations of Eligibility, and the Office of Historic Preservation Directory of Properties in the Historic Property Data File. There are no additional historic properties, historical resources, or historic landmarks recorded within one mile of the Project APE.

Historical maps consulted include Lompoc, CA (1905) 30-minute, Los Olivos, CA (1942, 1959) 15-minute, and Solvang (1959 and 1982) 7.5-minute USGS quadrangles. The 1982 Solvang quadrangle depicts a portion of the Solvang WWTP within the Project APE; however, none of the earlier historical topographic quadrangles show any historical structures or buildings within the Project APE.

### 4.4 NATIVE AMERICAN COORDINATION

PaleoWest contacted the NAHC, as part of the cultural resource assessment, on May 13, 2019, for a review of the SLF. The objective of the SLF search was to determine if the NAHC had any knowledge of



Native American cultural resources (e.g., traditional use or gathering area, place of religious or sacred activity, etc.) within the immediate vicinity of the Project APE. The NAHC responded with a letter dated June 3, 2019, stating that the SLF search resulted in a positive finding and the Santa Ynez Band of Mission Indians should be contacted for more information regarding the known resource. Additionally, the NAHC recommended that five other Native American individuals and/or organizations be contacted to elicit information regarding cultural resource issues related to the proposed Project (Appendix A). All of the requested individuals and/or organizations were contacted by email or standard mail on July 3, 2019 and again on December 10, 2019 when the Project APE was revised. PaleoWest conducted follow up phone calls on July 19, 2019 and again on January 2, 2020 to any individuals that had not already responded to the scoping letters. An example of the SLF search request letter, the list of contacts, a sample scoping letter, and a contact/response matrix are included in Appendix A.

Mona Tucker, Chairperson of the yak tityu tityu tilhii Northern Chumash Tribe, responded on July 3, 2019, stating that the Project area is outside her ancestral territory and, as such, she cannot provide comment [Ms. Tucker was not contacted when the Project APE was revised as a result of her initial feedback]. Patrick Tumamait of the Barbareno/Ventureno Band of Mission Indians responded on July 11, 2019, and stated he has no concerns for the proposed Project. Julie Tumamait-Stenslie of the Barbareno/Ventureno Band of Mission Indians responded on January 2, 2020 indicating she would defer to northern tribes but recommended if Native American monitoring occurs it should be conducted by experienced Chumash monitors. The Santa Ynez Band of Chumash Indians were called three times (July 19, July 23, 2019, and January 2, 2020) regarding the results of the SLF; however, to date, no response has been received. Additionally, no responses have been received to date from Eleanor Arrellanes, or Raudel Joe Banuelos, Jr., both Barbareno/Ventureno Band of Mission Indians; Julio Quair, Chairperson of the Chumash Council of Bakersfield; Gino Altamirano, Chairperson for the Coastal Band of Chumash Nation; Fred Collins, Northern Chumash Tribal Council; and Mark Vigil, Chief of the San Luis Obispo County Chumash Council.

## 5.0 FIELD INVESTIGATION

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### 5.1 FIELD METHODS

Pedestrian surveys were conducted by PaleoWest archaeologist, Roberta Thomas, on June 28, 2019 and by PaleoWest archaeologists, Alegria Garcia and Melissa Jenkins, on December 4-5, 2019. During the initial survey, Ms. Thomas was escorted around the facility by Paul Matsukas, Lead Operator. Mr. Matsukas identified the proposed additional land to be added to the facility that will be directly impacted by the proposed improvements. The surveys were conducted by walking parallel transects across the 90-acre survey area (Figure 5-1) spaced at a 10-15 meter (33-50 feet) intervals, when possible. The proposed improvement areas and general survey area were recorded with digital photographs for use in the report. Photographs included general views of the topography and vegetation density, and other relevant images. A photo log was maintained to include photo number, date, orientation, photo description, and comments. The surveyor carefully inspected all areas likely to contain or exhibit sensitive cultural resources, to ensure discovery and documentation of and visible, potentially significant cultural resources located within the Project APE.

Historical site indicators may include fence lines, ditches, standing buildings, objects or structures such as sheds, or concentrations of materials at least 45 years in age, such as domestic refuse (e.g., glass bottles, ceramics, toys, buttons or leather shoes), refuse from other pursuits such as agriculture (e.g., metal tanks, farm machinery parts, horse shoes) or structural materials (e.g., nails, glass window panes, corrugated metal, wood posts or planks, metal pipes and fittings, railroad spurs, etc.). Prehistoric site indicators may include areas of darker soil with concentrations of ash, charcoal, bits of animal bone (burned or unburned), shell, flaked stone, ground stone, or even human bone.

### 5.2 FIELD RESULTS

Ground disturbance within the area is widespread and ground visibility within the existing water quality control facility was poor (less than 35%); the majority of the facility is paved or houses large pieces of equipment (Figures 5-2, 5-3, 5-4, and 5-5). In contrast, the proposed addition and remainder of the survey area includes a large agricultural field with ground visibility varying between 5 to 70 percent (Figure 5-4). This area is actively tilled and densely vegetated.

The survey area also contains a fenced area between the existing facility and the agricultural field (Figure 5-6). This area is regularly mowed/graded for access purposes. Ground visibility within this portion of the survey area was good in the areas of recent mowing grading (75–85%). The ground visibility became fair to poor (10–50%) closer to the fence of the facility due to the presence of very dense tall grasses, large oak trees, and dense leaf ground coverage. As previously, stated the facility does include existing structures; however, these structures are modern. No evidence of prehistoric or historic-period archaeological resources or built-environment resources were identified within the existing facility or within the fenced area immediately adjacent to the facility.

Two previously recorded resources, P-42-004081 (multicomponent site; TCP) and P-42-038556 (prehistoric isolated find), have been documented within the survey area; however, only one of them (P-42-004081, is also located within the APE. P-42-004081 was inspected on December 4<sup>th</sup>, 2019 to assess the current conditions of the site. PaleoWest updated the site boundary to conform to the landscape and observable cultural materials; no other updates were necessary. The site has been identified as the shrine



hill (*Napamu*’); however, the location of the major lime quarry for the Mission Santa Ines was confirmed on and below the north slope of the shrine hill. It was in this area that the site boundary was adjusted, as the clusters of quarried limestone cobbles were only found at the base of the slope. Further, the southeast section was also adjusted as the quarried limestone cobbles were found closer to the center of the site. The proposed Recycled Pipeline Alignment 2 intersects P-42-004081.

P-42-038556 was not re-identified during the current effort. The area is currently an actively cultivated agricultural field and, as such, the isolated find was likely destroyed or displaced by on-going agricultural activities. No additional prehistoric or historical archaeological resources or historic-period built-environment resources were identified within the larger survey area as a result of the current investigation.

In addition to the TCP (P-42-004081), 19 archaeological resources were identified within one mile of the Project APE; therefore, there is potential for encountering archaeological resources below the disturbance on the ground surface. This possibility increases for proposed work within the agricultural field as only surficial plowing/tilling appears to have been conducted in the past allowing for shallow disturbances.



Figure 5-1 Project Survey Area Map





Figure 5-2 Overview of existing WWTP facility, view to the southeast



Figure 5-3 Overview of existing WWTP facility, view to the northeast



Figure 5-4 Overview of existing WWTP facility, view to the north



Figure 5-5 Overview of existing WWTP facility, view to the northwest





Figure 5-6 Overview of proposed additional land, view to the north



Figure 5-7 Overview of proposed additional between facility and agricultural field, view to the northeast



Figure 5-8 Overview of agricultural field, view to the southwest



Figure 5-9 Overview of agricultural field, view to the southwest





Figure 5-10 Project APE Map with Resources

## 6.0 MANAGEMENT RECOMMENDATIONS

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The cultural resource records search and pedestrian survey identified one archaeological resource - multicomponent site P-42-004081 (TCP) - within the Project APE. This site is a potentially significant Chumash ceremonial site that has been recommended as eligible for listing on the NRHP. One of the proposed recycled pipeline alignments intersects the site. The efforts associated with constructing this alignment option would involve drilling into the hillside below the TCP. It is not believed the project will have a direct or indirect impact on this resource. However, because of the close proximity of the proposed work to the TCP, the density of prehistoric resources in the area, and the general archaeological sensitivity of the area, PaleoWest recommends that an archaeological monitor and a Native American monitor be present during ground disturbing activities in native sediments to ensure the Project does not inadvertently impact any significant cultural resources. Julie Tumamait-Stenslie of the Barbareno/Ventureno Band of Mission Indians recommended if Native American monitoring occurs it should be conducted by experience Chumash monitors.

In the event that potentially significant archaeological materials are encountered during Project-related ground-disturbing activities, all work should be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological resource. In addition, Health and Safety Code 7050.5, CEQA 15064.5(e), and Public Resources Code 5097.98 mandate the process to be followed in the unlikely event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Finally, should additional actions be proposed outside the currently defined Project APE that have the potential for additional subsurface disturbance, further cultural resource management may be required.



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## ***Appendix A. Native American Coordination***

NATIVE AMERICAN HERITAGE COMMISSION  
Cultural and Environmental Department  
1550 Harbor Blvd., Suite 100  
West Sacramento, CA 95691  
Phone: (916) 373-3710  
Email: [nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
Website: <http://www.nahc.ca.gov>  
Twitter: @CA\_NAHC



June 3, 2019

Robbie Thomas  
PaleoWest Archaeology

VIA Email to: [rthomas@paleowest.com](mailto:rthomas@paleowest.com)

RE: Solvang Wastewater Treatment Plant Water Quality Project, Santa Barbara County

Dear Ms. Thomas:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the Santa Ynez Band of Chumash Indians on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: [steven.quinn@nahc.ca.gov](mailto:steven.quinn@nahc.ca.gov).

Sincerely,

A handwritten signature in blue ink that reads "Steven Quinn".

Steven Quinn  
Associate Governmental Program Analyst

Attachment

**Native American Heritage Commission  
Native American Contact List  
Santa Barbara County  
6/3/2019**

**Barbareno/ Ventureno Band of  
Mission Indians**

Eleanor Arrellanes,  
P. O. Box 5687 Chumash  
Ventura, CA, 93005  
Phone: (805) 701 - 3246

**Northern Chumash Tribal  
Council**

Fred Collins, Spokesperson  
P.O. Box 6533 Chumash  
Los Osos, CA, 93412  
Phone: (805) 801 - 0347  
fcollins@northernchumash.org

**Barbareno/ Ventureno Band of  
Mission Indians**

Raudel Banuelos,  
331 Mira Flores Chumash  
Camarillo, CA, 93012  
Phone: (805) 427 - 0015

**San Luis Obispo County  
Chumash Council**

Mark Vigil, Chief  
1030 Ritchie Road Chumash  
Grover Beach, CA, 93433  
Phone: (805) 481 - 2461  
Fax: (805) 474-4729

**Barbareno/ Ventureno Band of  
Mission Indians**

Patrick Tumamait,  
992 El Camino Corto Chumash  
Ojai, CA, 93023  
Phone: (805) 216 - 1253

**Santa Ynez Band of Chumash  
Indians**

Kenneth Kahn, Chairperson  
P.O. Box 517 Chumash  
Santa Ynez, CA, 93460  
Phone: (805) 688 - 7997  
Fax: (805) 686-9578  
kkahn@santaynezchumash.org

**Barbareno/Ventureno Band of  
Mission Indians**

Julie Tumamait-Stenslie,  
Chairperson  
365 North Poli Ave Chumash  
Ojai, CA, 93023  
Phone: (805) 646 - 6214  
jtumamait@hotmail.com

**yak tityu tityu yak tilhini –  
Northern Chumash Tribe**

Mona Tucker, Chairperson  
660 Camino Del Rey Chumash  
Arroyo Grande, CA, 93420  
Phone: (805) 748 - 2121  
olivas.mona@gmail.com

**Chumash Council of  
Bakersfield**

Julio Quair, Chairperson  
729 Texas Street Chumash  
Bakersfield, CA, 93307  
Phone: (661) 322 - 0121  
chumashtribe@sbcglobal.net

**Coastal Band of the Chumash  
Nation**

Gino Altamirano, Chairperson  
P. O. Box 4464 Chumash  
Santa Barbara, CA, 93140  
cbcn.consultation@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Solvang Wastewater Treatment Plant Water Quality Project, Santa Barbara County.

July 3, 2019

Gino Altamirano, Chairperson  
Coastal Band of the Chumash Nation  
P. O. Box 4464  
Santa Barbara, CA, 93140  
Transmitted via email to: [cbcn.consultation@gmail.com](mailto:cbcn.consultation@gmail.com)

**Re:** Cultural Resource Investigation for the City of Solvang Wastewater Treatment Plant Water Quality Project, Solvang, Santa Barbara County, California

Dear Mr. Altamirano,

On behalf of Meridian Consultants, PaleoWest Archaeology (PaleoWest) is conducting a cultural resource investigation, in compliance with the California Environmental Quality Act and Section 106 of the National Historic Preservation Act, for the proposed City of Solvang Wastewater Treatment Plant (WWTP) Water Quality Project (Project) in Solvang, Santa Barbara County, California. The proposed Project includes improvements to restore lost treatment capacity, achieve required consistent removal of nitrogen, expand capacity to meet immediate and future demands, address existing Plant deficiencies, and replace old facilities that have reached the end of their useful life. The City of Solvang is the lead agency for CEQA and the Regional Water Control Board is the lead agency for Section 106. The Project's Area of Potential Effects (APE) is located on the Solvang, Calif. 7.5' USGS quadrangle map, within Section 21/Nojoqui land grant in T6N/R31W (see attached map).

A cultural resource literature review and records search conducted at the Central Coast Information Center (SCIC) housed at the University of California, Santa Barbara, indicates that four cultural resource studies have been conducted within the immediate vicinity and intersect or include portions of the Project area. The records search indicated that no prehistoric archaeological resources have been identified the Project area or the immediate vicinity; however, 16 prehistoric archaeological resources and one historic-period archaeological resource have been identified within a one-mile radius of the Project area. PaleoWest conducted a survey of the Project APE and did not identify any archaeological resources as a result of the survey.

As part of the cultural resource investigation of the Project area, PaleoWest requested a search of the Native American Heritage Commission's (NAHC's) *Sacred Lands File* on May 13, 2019. The NAHC responded on June 3, 2019 indicating that the results of the file search for the Project area were positive. The NAHC indicated that the Santa Ynez Band of Chumash Indians should be contacted for more information. The NAHC provided a contact list of additional tribal representatives that may have information about the Project area. Should your records show that



cultural properties exist within or near the Project area (see enclosed map), please contact me at (626) 408-8006 or [rthomas@paleowest.com](mailto:rthomas@paleowest.com). I will follow-up in two weeks with a phone call or email if I do not hear from you.

Your comments are very important to us, and to the successful completion of this Project. I look forward to hearing from you in the near future. Thank you, in advance, for taking the time to review this request.

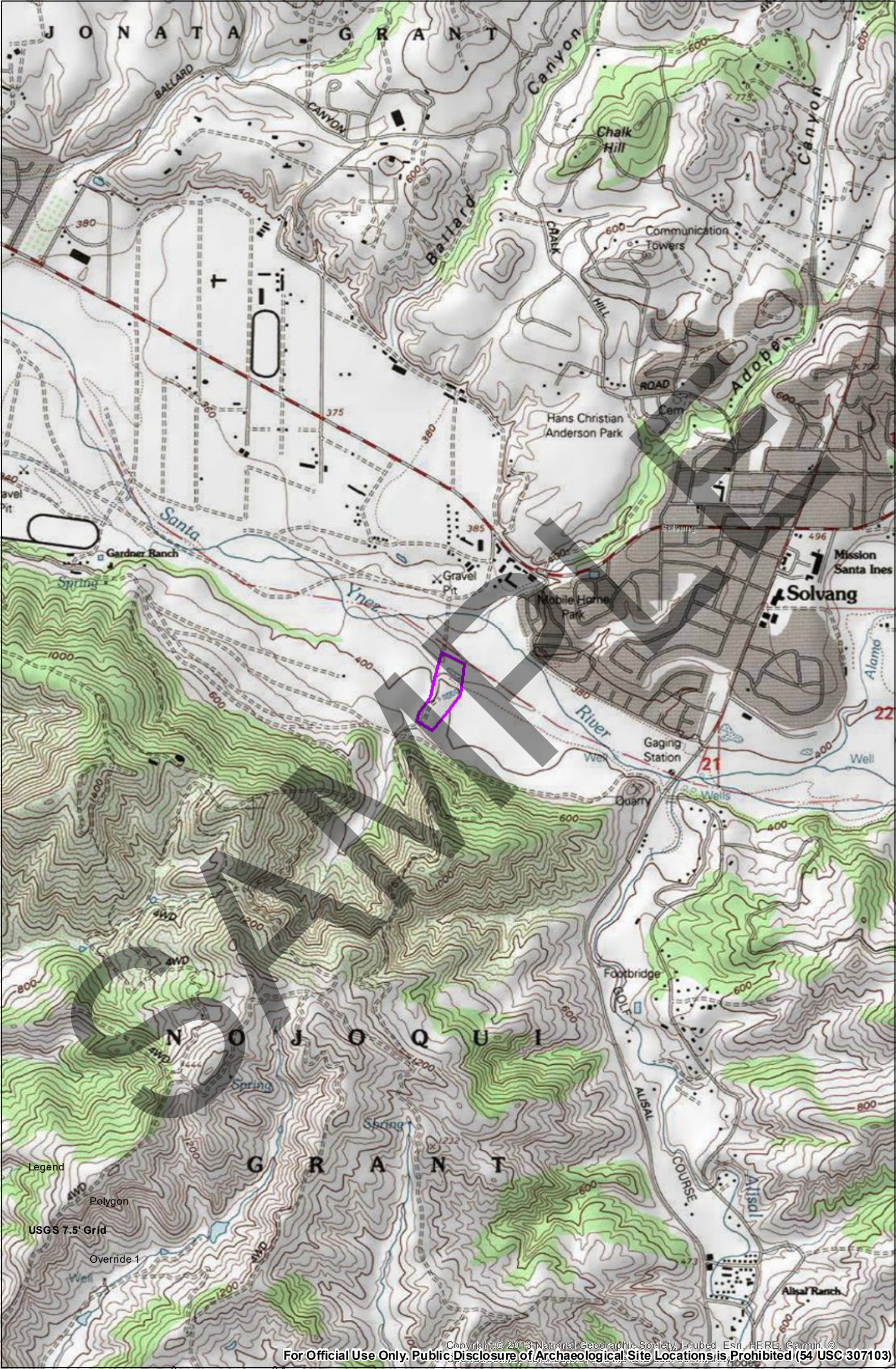
Respectfully yours,



Roberta Thomas, M.A., RPA  
Senior Archaeologist  
PaleoWest Archaeology

SAMPLE





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For Official Use Only. Public Disclosure of Archaeological Site Locations is Prohibited (54 USC 307103)



December 10, 2019

Julie Tumamait-Stenslie, Chairperson  
Barbareno/Ventureno Band of Mission Indians  
365 North Poli Ave  
Ojai, CA 93023  
Transmitted via email to [jtumamait@hotmail.com](mailto:jtumamait@hotmail.com)

**Re:** Updated Cultural Resource Investigation for the City of Solvang Wastewater Treatment Plant Water Quality Project, Solvang, Santa Barbara County, California

Dear Ms. Tumamait-Stenslie,

On behalf of Meridian Consultants, PaleoWest Archaeology (PaleoWest) is conducting a cultural resource investigation, in compliance with the California Environmental Quality Act and Section 106 of the National Historic Preservation Act, for the proposed City of Solvang Wastewater Treatment Plant (WWTP) Water Quality Project (Project) in Solvang, Santa Barbara County, California. This letter serves as an update to the previous letter sent on July 3, 2019. The proposed Project includes improvements to restore lost treatment capacity, achieve required consistent removal of nitrogen, expand capacity to meet immediate and future demands, address existing Plant deficiencies, and replace old facilities that have reached the end of their useful life. *The updated Project description includes installation of a new recycled water pipeline from the existing facility connecting to an existing pipeline at the corner of Rancho Alisal Drive and Alisal Road.* The City of Solvang is the lead agency for CEQA and the Regional Water Control Board is the lead agency for Section 106. The Project's Area of Potential Effects (APE) is located on the Solvang, Calif. 7.5' USGS quadrangle map, within Section 21/Nojoqui land grant in T6N/R31W (see first attached map). The new recycled water pipeline alignment has not been finalized at the moment so a large area was surveyed to cover the final alignment location (see second attached map).

A cultural resource literature review and records search conducted at the Central Coast Information Center (SCIC) housed at the University of California, Santa Barbara, indicates that four cultural resource studies have been conducted within the immediate vicinity and intersect or include portions of the Project area. *With the expansion of the Project area, the survey area does now include one prehistoric archaeological resource.* The original records search indicates that 15 prehistoric archaeological resources and one historic-period archaeological resource have been identified within a one-mile radius of the existing facility. During the supplemental survey conducted by PaleoWest the boundary of the previously recorded prehistoric archaeological resource was updated; the resources is still located within the survey area. No additional archaeological resources were identified during the supplemental survey.

As part of the cultural resource investigation of the Project area, PaleoWest requested a search of the Native American Heritage Commission's (NAHC's) *Sacred Lands File* on May 13, 2019.

The NAHC responded on June 3, 2019 indicating that the results of the file search for the Project area were positive. The NAHC indicated that the Santa Ynez Band of Chumash Indians should be contacted for more information. The NAHC provided a contact list of additional tribal representatives that may have information about the Project area. Should your records show that cultural properties exist within or near the Project area (see enclosed map), please contact me at (918) 232-4312 or [rthomas@paleowest.com](mailto:rthomas@paleowest.com). I will follow-up in two weeks with a phone call or email if I do not hear from you.

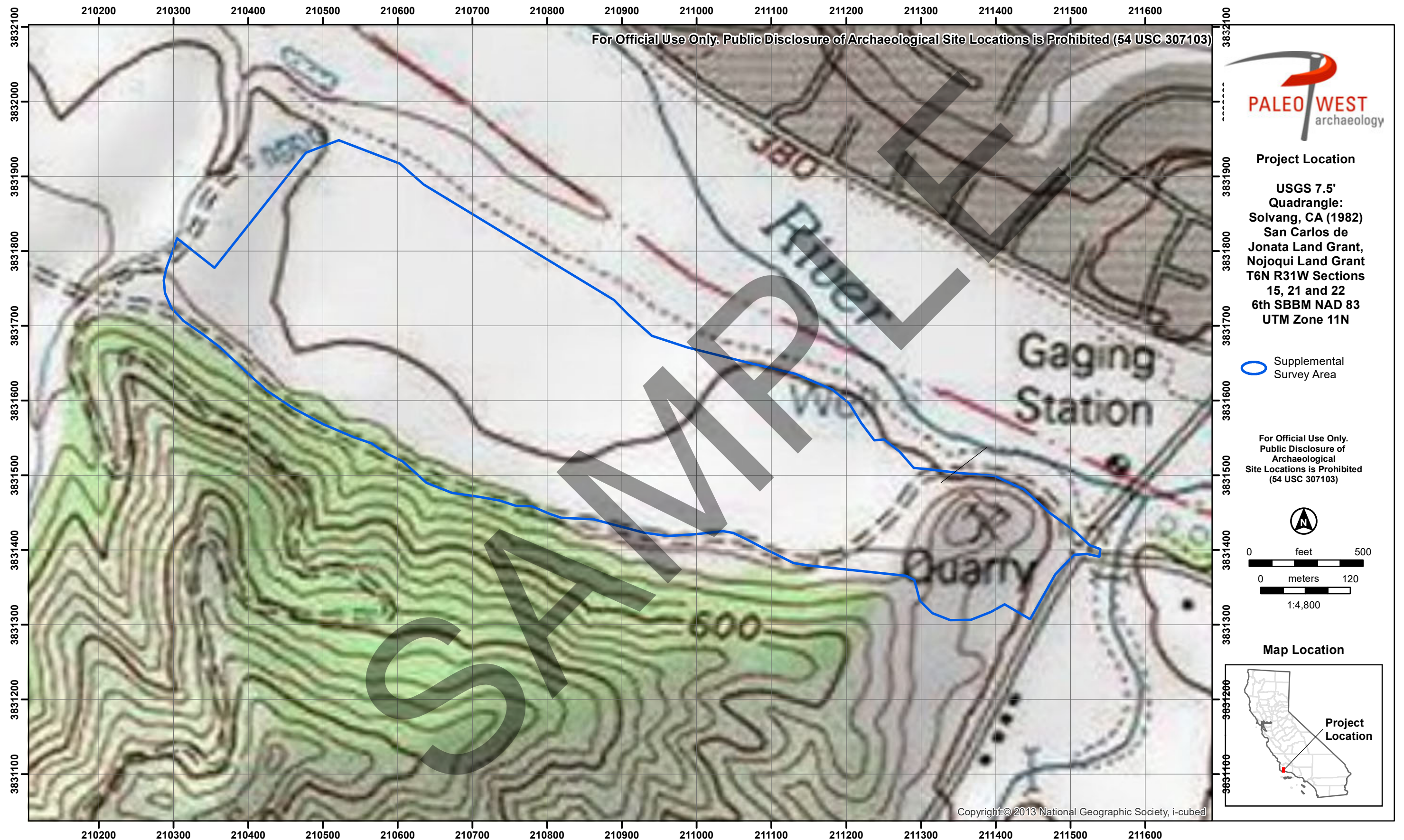
Your comments are very important to us, and to the successful completion of this Project. I look forward to hearing from you in the near future. Thank you, in advance, for taking the time to review this request.

Respectfully yours,



Roberta Thomas, M.A., RPA  
Senior Archaeologist  
PaleoWest Archaeology





### Native American Contact/Response Matrix

Recommended Contacts (Name and Tribal Affiliation)	Initial Contact	Follow up Attempts	Comments/Notes
Eleanor Arrellanes, Barbareno/Ventureno Band of Mission Indians	Letter dated July 3, 2019	Phone call, July 19, 2019; Revised Project letter sent out December 10, 2019; Phone call, January 2, 2020	Left message for Ms. Arrellanes.
Raudel Joe Banuelos, Jr., Barbareno/Ventureno Band of Mission Indians	Letter dated July 3, 2019	Phone call, July 19, 2019; Revised Project letter sent out December 10, 2019; Phone call, January 2, 2020	Left a message for Mr. Banuelos.
Patrick Tumamait, Barbareno/Ventureno Band of Mission Indians	Letter dated July 3, 2019	Revised Project letter sent out December 10, 2019; <del>Phone call, January 2, 2020</del>	Mr. Tumamait called on July 11 to state that he has no concerns regarding the proposed Project.
Julie Lynn Tumamait-Stenslie, Chairperson, Barbareno/Ventureno Band of Mission Indians	Letter dated July 3, 2019	Phone call, July 19, 2019; Revised Project letter sent out December 10, 2019; Phone call, January 2, 2020	Ms. Tumamait-Stenslie deferred to northern tribes; however, she stated that if Native American monitoring is recommended and conducted, it should be conducted by experienced Chumash monitors.
Julio Quair, Chairperson, Chumash Council of Bakersfield	Letter dated July 3, 2019	Phone call, July 19, 2019; Revised Project letter sent out December 10, 2019; Phone call, January 2, 2020	Left message for Mr. Quair.
Gino Altamirano, Chairperson, Coastal Band of Chumash Nation	Letter dated July 3, 2019	Revised Project letter sent out December 10, 2019	Email address provided was not correct and no phone number provided with contact information. No follow up could be attempted.
Fred Collins, Spokesperson, Northern Chumash Tribal Council	Letter dated July 3, 2019	Phone call, July 19, 2019; Revised Project letter sent out December 10, 2019; Phone call, January 2, 2020	Left a message for Mr. Collins.

### Native American Contact/Response Matrix

Recommended Contacts (Name and Tribal Affiliation)	Initial Contact	Follow up Attempts	Comments/Notes
Mark Vigil, Chief, San Luis Obispo County Chumash Council	Letter dated July 3, 2019	Phone call, July 19, 2019; Revised Project letter sent out December 10, 2019; Phone call, January 2, 2020	No message left, voicemail box full.
Kenneth Kahn, Chairperson, Santa Ynez Band of Chumash Indians	Letter dated July 3, 2019	Phone call, July 19, 2019; Phone call, July 23, 2019; Revised Project letter sent out December 10, 2019; Phone call, January 2, 2020	7/19 Left message for Cody Vespia in Cultural Department. 7/23 Left message for Freddy Romero in Cultural Department.
Mona Tucker, Chairperson, yak tityu tityu tilhii - Northern Chumash Tribe	Letter dated July 3, 2019		Ms. Tucker emailed on July 3 stating she could not provide comment as the Project is not located within her ancestral territory. She recommended contacting families and tribes indigenous to the Project vicinity.

Two thin, parallel red lines that curve upwards from the left side of the page towards the right, starting near the top and ending slightly below the top.

## ***Appendix B. Updated DPR Forms***



## CONTINUATION SHEET

Property Name: Napamu' Shrine and Mission Santa Ines Lime Quarry

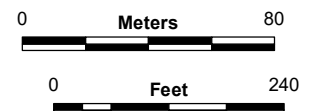
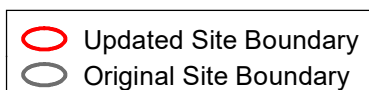
Page \_\_1\_\_ of \_\_3\_\_

This resource was originally recorded in 2012 as a lime quarry and ethnographic shrine hill site. PaleoWest revisited the site during a field survey on December 5, 2019.

Current conditions of the site included a dense stand of thick foliage at the base of the hill. Inspection of the slopes and top of the hill was impeded by a cover of xeric grasses on the surface rendering the ground surface visibility at approximately 30 percent. Despite the visibility, numerous limestone cobbles of various sizes littered the surface of the hill. The site boundary was revised to reflect the point at which the cobbles were no longer present.



**Datum Location:**  
UTM Zone 11, NAD 83  
3831421 m East  
3831421 m North



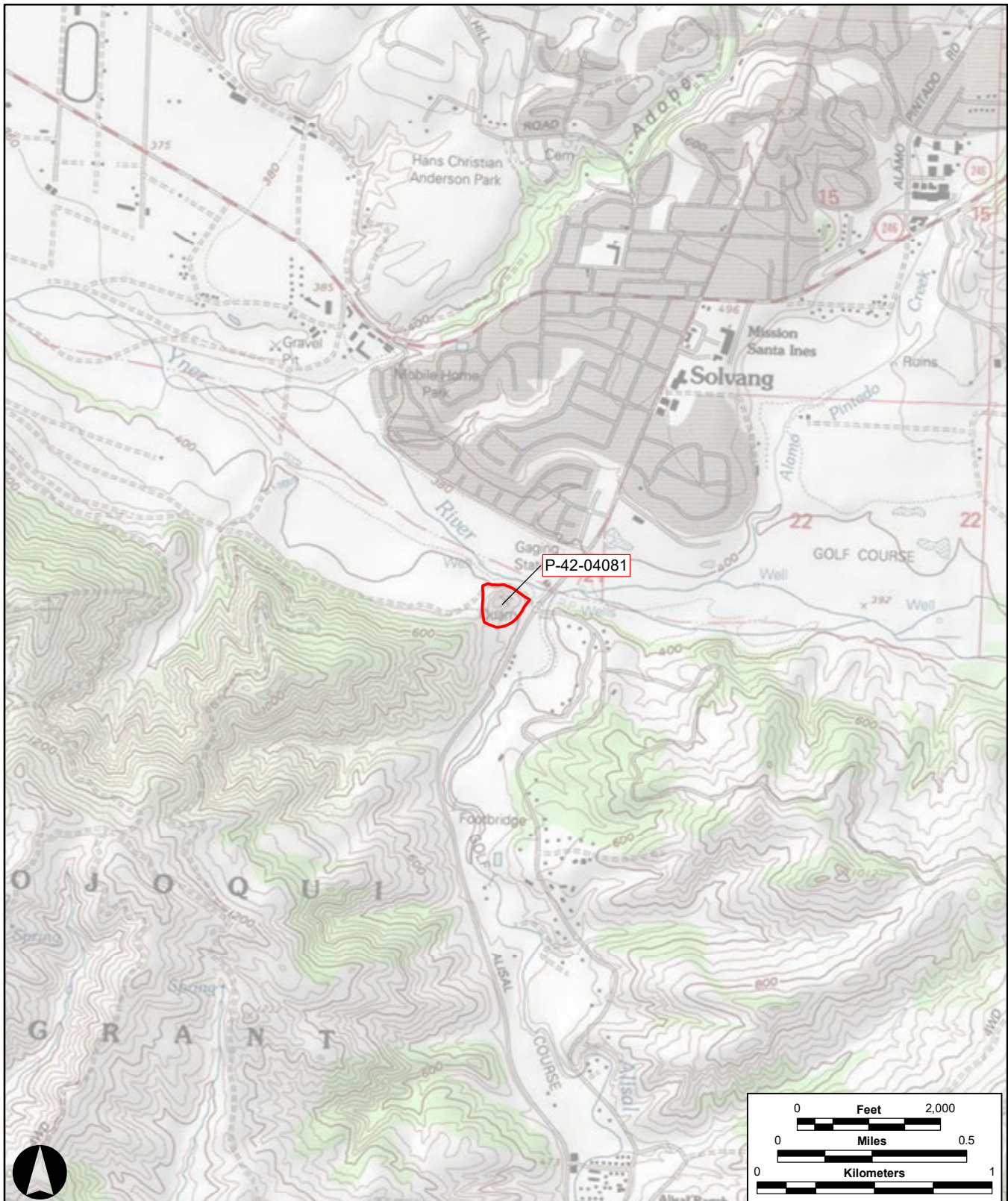
Page # of #

Resource Name or #: P-42-04081

Scale: 1:24,000

Map Name: Solvang, CA 7.5' USGS Quad.

Date: 2019



State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**PRIMARY RECORD**

Primary # P-42-004081  
HRI #  
Trinomial CA-SBA-4081/H  
NRHP Status Code

Other Listings  
Review Code

Reviewer

Date

Page 1 of 10

\*Resource Name or #: *Napamu'* Shrine and Mission Santa Ines Lime Quarry

P1. Other Identifier:

\*P2. Location: ☒ Not for Publication ☐ Unrestricted

\*a. County: Santa Barbara

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*b. USGS 7.5' Quad: Solvang

Date: 1959/PR 1974 T ; R ;

¼ of ¼ of

Sec ; M.D.

B.M.

c. Address: Just west of south end of Alisal Rd Bridge over Santa Ynez River City: Solvang, CA

Zip: 93463

d. UTM: Zone: 10 ; 761690 mE/ 3830510 mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 390 – 530 feet  
From Highway 246 in the City of Solvang, turn south on Alisal Road and drive 0.9 miles across Santa Ynez River Bridge.

Site is on right (west of) road and occupies hill (*Napamu'*), its slopes, and flat area around base of hill to river bank and elsewhere extending out an unknown distance from the base.

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The resource consists of an ethnographically documented shrine hill (*Napamu'*) that most likely at one time had a shrine (*sawi'l*) at its summit that was used for various ceremonies and rituals as well as a possible dance floor and ceremonial preparation areas nearby within the site area. The Chumash have not had access to this significant traditional cultural property since the Mission Period when worship at such sites was strongly discouraged by the Franciscan Missionaries (see continuation sheet).

\*P3b. Resource Attributes: (List attributes and codes)

HP-36 (Ethnic Minority Property: Chumash Indian); AH9 (Quarry with Lime Kiln); AP16 (Chumash Shrine location with likely subsurface Archaeological features and artifacts).

\*P4. Resources Present: ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☒ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #)  
Various Views of Site.

P5a. Photo or Drawing



\*P6. Date Constructed/Age and Sources:

Historic

☐ Prehistoric ☒ Both

\*P7. Owner and Address: Palmer Jackson; Alisal Ranch; 150 Alisal Road; Solvang, CA 93463

\*P8. Recorded by: (Name, affiliation, and address)

Laurence W. Spanne; Cultural Resources Consultant; 3915 E Juniper Cliffs Dr.; Kanab, Utah 84741-4177

\*P9. Date Recorded: 2/18/2012

\*P10. Survey Type: (Describe) Brief Site Visit with owner, County Officials, and Santa Ynez Chumash Indian Band Officials to examine proposed agricultural reservoir project in vicinity.

\*P11. Report Citation: (Cite survey report and other sources, or enter "none.")

Mary Maki, 2010; Phase I Cultural Resources Investigation of Approximately 1.5 Acres for Alisal Agricultural Reservoir Project; Solvang, Santa Barbara County, California.

J.P. Harrington Ethnographic Microfilm Field Notes,

Screen 7:164, 8: 087b, and 9: 404. Collected between 1912 and the 1940s.

Thomas C. Blackburn, 1975, *December's Child: A Book of Chumash Oral Narratives*. University of California Press.

Laurence W. Spanne, 2011a, Letter Report on the Review and Analysis of the Proposed Alisal Agricultural Reservoir Project.

Laurence W. Spanne, 2011b, An Analysis of the Location of Shrine Hill *Napamu'*, Alisal Agricultural Reservoir Project (Letter Report).

\*Attachments: ☐ NONE ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record

☒ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record

☐ Artifact Record ☐ Photograph Record ☒ Other (List): Attached Photographs of Site



\*Recorded by: Laurence W. Spanne

\*Date: 2/18/2012    X Continuation    ☐ Update

**Continued from Primary Record P3a. Description:** Since that time they have they have been excluded from the site due to private ownership of the property. Remnants of the shrine may be buried at the summit of the hill and the surrounding slopes along with the remains of offerings deposited there. Several small cobbles, which could be remnants of a shrine foundation, were observed at the summit. Also, a single large quartzite flake was discovered on the surface just west of the shrine hill, at its base, during a recent archaeological survey. This shrine location was likely in use just before and possibly during the Mission Period. It is the only known example of a river shrine in this area and is located at the intersection of the river and a potentially important trail that led from the Santa Ynez Valley to the coast.

This site qualifies as both a Traditional Cultural Property and an important archaeological site. It is registered in the Sacred Lands Inventory with the California Native American Heritage Commission as a Sacred/Power Area and Worship/Ritual Site. In addition, the major lime quarry for Mission Santa Ines (a designated National Historic Landmark located less than one mile to the north) is also ethnographically documented as having been located on and below the north slope of the shrine hill. Limestone outcrops are clearly visible within the slope of the hill, and what appears to be quarried limestone cobbles ranging in size from that of oranges, grapefruit, and cantaloupes, are visible in a cluster-like feature at the base of the northern slope. The pieces of quarried material are consistent in size with those found at other Spanish Mission quarry sites in California. The ethnographic reference also indicates that workers at the bottom of the slope gathered up the quarried material and placed it in the kiln to burn. The remains of the kiln have not been located, but are probably somewhere in close proximity to the limestone cobble feature.

The shrine hill appears to have retained much of its original appearance, although the eastern face was quarried in modern times for shale gravel. The borrow area appears to have been restored such that it is covered with natural vegetation rendering and scarcely visible. A single-track, graded dirt road also traverses the slope in this location. The steep northern slope where limestone was quarried for the mission seems to have retained much of its earlier appearance. However, the area immediately to the north between the base of the slope and the river has been impacted by an access road and a buried State Water Pipeline. These previous disturbances may have damaged or disturbed archaeological features and deposits associated with the mission quarry to an unknown extent. Any archaeological remains associated with the shrine and quarry are estimated to be present within an area of about 270 meters by 160 meters roughly centered on the shrine hill (see attached map). However, some associated archaeological remains may be present beyond this area. During my brief site visit and also at the time of previous surveys, dense grasses obscured much of the ground surface making observation of any existing artifacts or other cultural material extremely difficult. Thus, the boundaries of the site, including the operational viewshed for use of the shrine, would require more fieldwork to be satisfactorily established. The setting or viewshed from the summit of the shrine hill and the quarry area has been altered since the two sites were originally in use. Urban development is obvious to the north across the Santa Ynez River in the City of Solvang and to a much lesser extent beyond Alisal Creek to the east. However, the near viewshed in these directions, including riparian woodlands and floodplains of the Santa Ynez River and Alisal Creek, retains much of its original integrity. The viewshed to the south and west is little altered and the entire 360 degree far horizon, a potentially important aspect for use of the shrine, has not been noticeably altered in appearance.

The three previous surveys examined linear corridors at the periphery of the subject sites. Earlier surveys were conducted at a time when information about the shrine hill and mission quarry were not easily accessible, so no special attention was given to the area of these sites. The most recent survey identified the shrine hill, based on secondary sources, but not the mission quarry. The recorder identified the quarry location while researching the primary ethnographic sources. The most recent survey included limited backhoe testing and sampling for a proposed reservoir and associated electrical and water lines, but the test units were located at or beyond the periphery of the sites as described in this record. The survey also did not examine an alternative utility/access route through the mission quarry area because it had been included in the earlier surveys. To date, the County of Santa Barbara has not required an extended survey of the mission quarry area, even though it is proposed as one of the alternate utility routes for the reservoir project. Consequently, virtually the entire area of the shrine/quarry site has not been subjected to a systematic surface survey or subsurface testing. The Santa Ynez Band of Chumash Indians and the recorder are of the opinion that this multicomponent archaeological/Chumash heritage site is eligible for nomination to the National Register of Historic Places. Furthermore, the shrine hill is of greater importance to the Chumash than any archaeological remains of a shrine, because it is sacred and lasting, and a physical shrine can be rebuilt or repaired as they often were traditionally prior to contact with the Spanish Missionaries.

## ARCHAEOLOGICAL SITE RECORD

Page 3 of 10

\*Resource Name or #: *Napamu'* Shrine and Mission Santa Ines Lime Quarry

\*A1. Dimensions: a. Length: 270 m. (E-W) × b. Width: 160m. (N-S)

Method of Measurement: ☐ Paced ☐ Taped ☒ Visual estimate ☐ Other: Estimate based on location of individual site components, artifacts, features, and ethnographic documentation.

Method of Determination (Check any that apply.): ☒ Artifacts ☒ Features ☐ Soil ☐ Vegetation ☒ Topography  
☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☒ Other (Explain): Ethnographic documentation.

Reliability of Determination: ☐ High ☒ Medium ☐ Low Explain: Ethnographic documentation is firm, but intensive archaeological survey and testing has not been conducted for site area. Archaeological fieldwork has been confined to periphery of site area. Only brief field visit to site was accomplished.

Limitations (Check any that apply): ☒ Restricted access ☐ Paved/built over ☒ Site limits incompletely defined  
☐ Disturbances ☒ Vegetation ☐ Other (Explain):

A2. Depth: ☐ None ☒ Unknown Method of Determination:

\*A3. Human Remains: ☐ Present ☐ Absent ☐ Possible ☒ Unknown (Explain):

\*A4. Features (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):

1. Concentration of quarried and sized limestone cobbles at foot of north slope of shrine hill *Napamu'*. Orange to Grapefruit to Cantaloupe sized cobbles are consistent with materials quarried for heat treatment in kilns at other California Spanish Mission Sites. Remains of at least one kiln are expected to be located in close proximity to the quarry.
2. Cobbles at summit of *Napamu'* Shrine Hill may be archaeological remnants of structures associated with an ethnographically documented Chumash Shrine. Remains of ceremonial preparation areas and a dance floor are expected to be located elsewhere in the site.
3. Ethnographic notes and publications indicate the presence of a cave in the limestone quarry area that is featured in one of the published Chumash oral narratives. This cave may or may not have been damaged or destroyed by quarrying activity.

\*A5. Cultural Constituents (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.): Quartzite flake was observed near southwestern boundary of site during previous limited archaeological survey for proposed agricultural reservoir. Main site area was not identified or surveyed during previous investigations. Other artifacts were not observed due to brevity of field visit (walk to top of hill, around its base, and back to parking area) and dense ground cover of grasses, brush, and Oak trees with dense leaf litter.

\*A6. Were Specimens Collected? ☒ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

\*A7. Site Condition: ☒ Good ☐ Fair ☐ Poor (Describe disturbances.): Some past gravel quarrying on east face of shrine hill (not very apparent), single track dirt road up east face to saddle, and access road/buried water pipeline north of the base of north slope.

\*A8. Nearest Water (Type, distance, and direction.): Santa Ynez River on north edge of site.

\*A9. Elevation: 390 – 530 feet above sea level.

A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): The site is in an area of annual grassland with patches of both Valley Oaks and Coast Live Oaks. There are also small patches of brush. The higher slopes to the south contain Oak Woodland, Chaparral, and Sage Scrub. Riparian Woodland of the perennial Santa Ynez River and Alisal Creek bound the site on the north and east.. Hay cropland is present to the west along with associated ruderal vegetation. Deer and hawks were observed on site and Steelhead Trout are known to be present seasonally in the river and creek. Soils are predominantly gray, gravelly silty loam. Underlying geology includes Monterey Shale, stream alluvium, and limestone outcrops. The predominant landforms are stream terraces and a prominent hill. Slope is minimal to moderate. Exposure is predominantly northern, eastern, and western.

A11. Historical Information: According to original ethnographic notes, a published sources, archaeological reports, and personal communication with a living member of the Santa Ynez Band of Chumash Indians, The site contained a major lime quarry and kiln that functioned during the construction of Mission Santa Ines. The site is also the location of a unusual shrine hill, *Napamu'*, situated immediately adjacent to the Santa Ynez River. This shrine probably functioned during the Protohistoric and possibly the Mission Periods. What was probably a major trail to the coast from the Santa Ynez Valley that was utilized by the Chumash into the Post-Mission times passed just east of the site and up Alisal Creek. A major pre-contact Chumash village site, CA-SBA-832, and cemetery is located immediately to the east across Alisal Creek. Ruins of a 19<sup>th</sup> Century Adobe known as the Yndart Adobe, is located in close proximity to the village site.

\*A12. Age: ☐ Prehistoric ☒ Protohistoric ☒ 1542-1769 ☒ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☐ 1914-1945  
☐ Post 1945 ☐ Undetermined Describe position in regional prehistoric chronology or factual historic dates if known: Probably protohistoric through the Spanish Mission Period.

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations): This site is sacred to the Santa Ynez Band and as well as other Chumash people and qualifies as a Traditional Cultural Property. It is the closest hill or peak shrine to the Santa Ynez Chumash Reservation, is probably visible from that community. It is also somewhat unique as a shrine because of its location immediately adjacent to the Santa Ynez River, an extremely important resource for the Chumash. At a minimum, the site has the potential to yield information about the structure and use of shrines. It also may yield information about the quarrying and processing of limestone into lime during the Spanish Mission Period.

A14. Remarks: See Continuation Sheet.

A15. References (Documents, informants, maps, and other references): See continuation sheet

A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.): See attached photographs.  
Original Media/Negatives Kept at:

\*A17. Form Prepared by: Laurence W Spanne

Date: 2/23/2012

Affiliation and Address: Cultural Resources Consultant; 3915 E Juniper Cliffs Dr;

Kanab, UT 84741-4177

DPR 523C (1/95)

\*Required information

**CONTINUATION SHEET**

Primary # P-42-004081

HRI#

Trinomial CA-SBA-4081/H

Page 4 of 10

\*Resource Name or # (Assigned by recorder) *Napamu'* Shrine and Mission Santa Ines Lime Quarry

\*Recorded by: Laurence W. Spanne

\*Date: 2/23/12

X Continuation

☐ Update

**Continued from Archaeological Record A14. Remarks:**

This site is a highly significant Traditional Cultural Place for the Santa Ynez Band of Chumash Indians. The Santa Ynez Band as well as the preparer of these records are of the strong opinion that this site is eligible for nomination to the National Register of Historic Places because "it is associated with events that have made a significant contribution to the broad patterns of our history" (relative to the construction of Spanish Missions in California) and because the property "has yielded, or is likely to yield, information important in prehistory or history. The fact that this property is an integral part of nearby Mission Santa Ines, which is already listed in the National Register as a National Historic Landmark, strongly reinforces its eligibility and eventual listing.

**Continued from Archaeological Record A15. References:**

Manual Armenta, 1970s, Personal Communication.

Mr. Armenta, a Chumash Elder from the Santa Ynez Band, related to me a story that his grandmother had told him. The story describes how she traveled with other Chumash to the Gaviota Coast on a trail that followed along Alisal Creek to the Gaviota Summit and then down Gaviota Creek to the ocean. She said there were piles of seashells at intervals along the trail, presumably the remains of meals consumed by travelers returning home from the coast. Ethnographic notes also indicate a trail in the vicinity of the *Napamu'* Shrine Hill. Her experience would have probably been around the late 1800s or early 1900s.

Thomas C. Blackburn, 1975, *December's Child: A Book of Chumash Oral Narratives*. Narratives 63 and 101.

Stephen Craig, 1979, *An Archaeological Assessment of a Portion of Archaeological Site SBA-832 Located on the Alisal Ranch near Solvang, California*.

John P. Harrington 1912 - 1940s, *Ethnographic Field Notes on Microfilm*, Screens 7: 164, 8: 087b, and 9: 404.

Mary Maki, 2010, *Phase I Cultural Resources Investigation of Approximately 1.5 acres for the Alisal Agricultural Reservoir Project*; Solvang, Santa Barbara County, California.

Laurence W Spanne, 2011a, *Letter Report on the Review and Analysis of the Proposed Alisal Reservoir Project*, Solvang, Santa Barbara County.

Laurence W. Spanne, 2011b, *An Analysis of the Location of Shrine Hill Napamu', Alisal Agricultural Reservoir Project* (Letter Report).

State of California — The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION  
**LOCATION MAP**

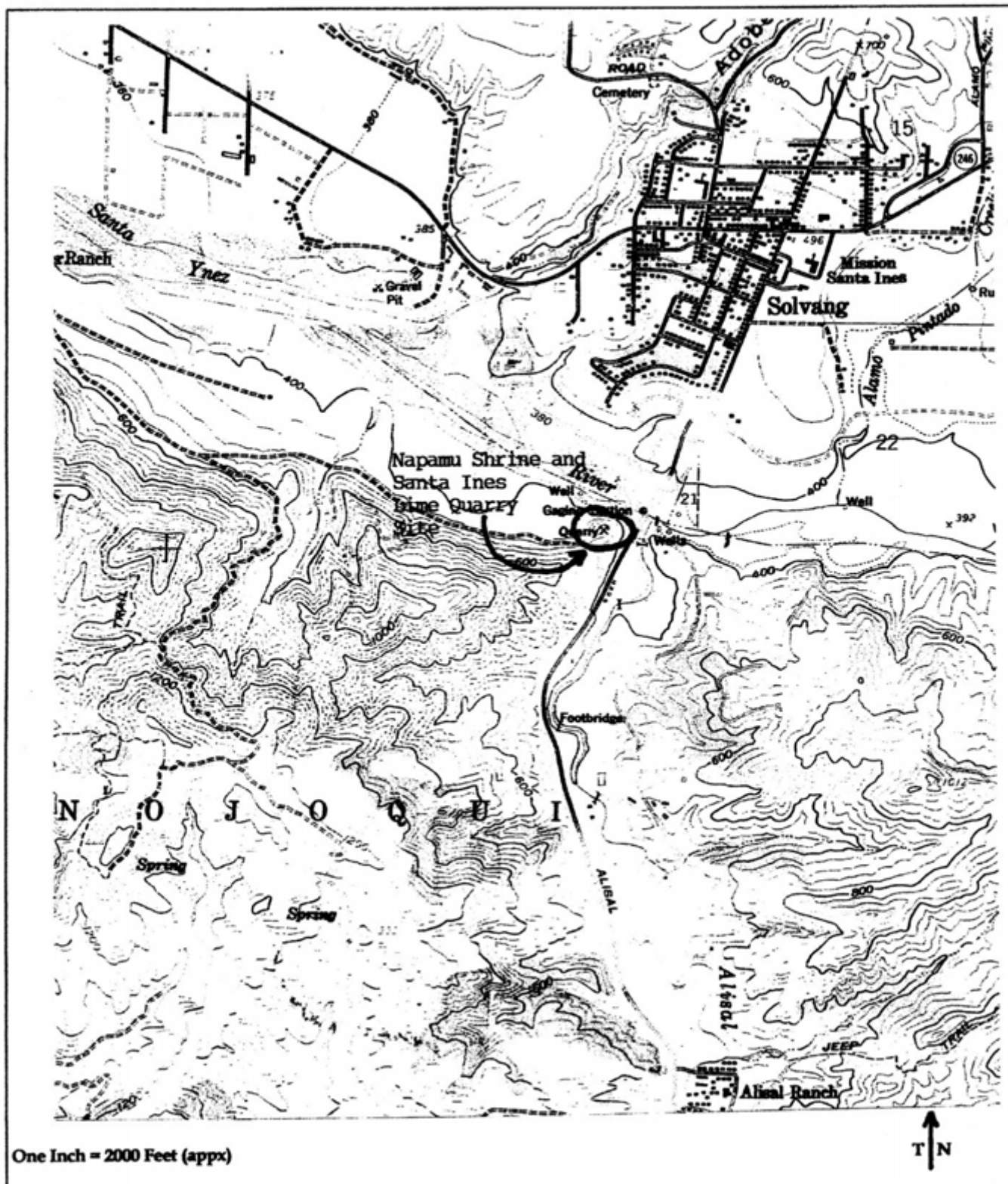
Primary # P-42-004081  
HRI#  
Trinomial CA-SBA-4081/H

Page 5 of 10

\*Resource Name or #: *Napamu' Shrine and Santa Ines Mission Lime Quarry*

\*Map Name: USGS 75' Solvang Quadrangle

\*Scale: 1:24,000 \*Date of Map: 1959/PR1974



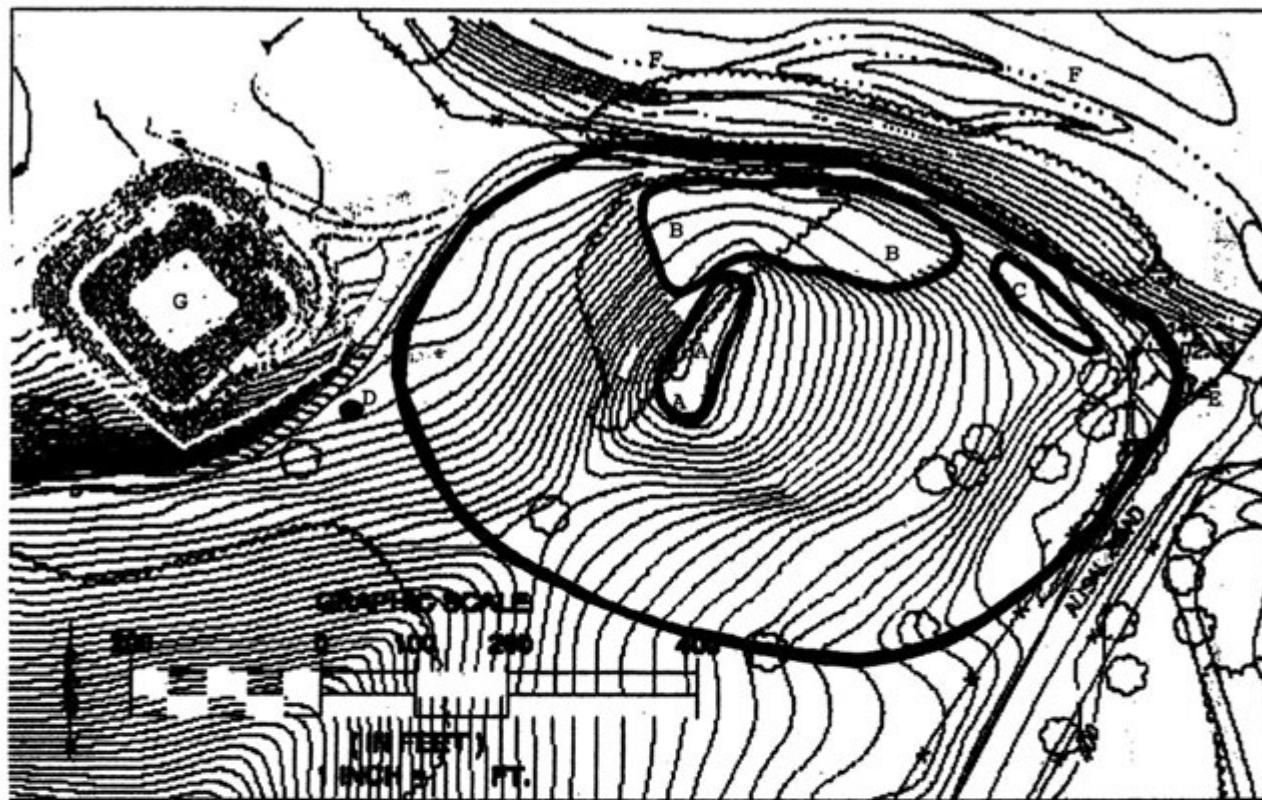
One Inch = 2000 Feet (appx)



**SKETCH MAP**

Page 6 of 10 \*Resource Name or # (Assigned by recorder) Napamu' Shrine and Mission Santa Ines Lime Quarry

\*Drawn By: \_\_\_\_\_ Date of Map: \_\_\_\_\_



**Sketch Map for Napamu and Mission Santa Ines Lime Quarry**  
(Adapted from Maki 2010)  
Page 6 of 10

**Legend**

- A** Probable Shrine Location
- B** Santa Ines Mission Lime Quarry Area
- C** Surface Feature of Quarried Limestone Cobbles
- D** Isolated Artifact (Quartzite Flake)
- E** South End of Santa Ynez River Bridge
- F** Santa Ynez River
- G** Proposed Alisal Agricultural Reservoir



Closeup of Location of Napamu' Shrine Hill, View to South Across Santa Ynez River—  
Note Limestone Outcrops in Brush Across Right Center of Slope.



Napamu' Shrine Hill, View from East Along Alisal Road—  
This is the Side of the Hill Quarried in the 1900s





View of Napamu' Shrine Hill from Adjacent Agricultural Field on West Side.



View to West from Summit of Napamu' Shrine Hill





View to East from Summit of Napamu' Shrine Hill



View to North from North Edge of Summit of Napamu' Shrine Hill.





Cobbles at the Summit of Napamu' Shrine Hill that May Represent Physical Remains of Shrine.



Probable Mission Santa Ines Limestone Quarry Rubble at Base of North Slope of Napamu Shrine Hill Just West of Mouth of Alisal Creek—Archaeological Remains of Mission Kiln are Probably Located in Close Proximity.

## CONTINUATION SHEET

Property Name: \_\_\_\_\_

Page \_\_\_1\_\_\_ of \_\_\_1\_\_\_

The isolated flake of green Franciscan chert was identified in 1994 at the edge of an agricultural field and along the base of a small hill. A field survey was conducted by PaleoWest on December 5, 2019; this resource was not relocated. The location of the isolate is currently covered by dense tufts of xeric grass.

# MAPPED

State of California - The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION

INFORMATION CENTER Reference Number SBA-ISO 556

## ISOLATE RECORD

Other Designations: CCAP-ISO-C-4

Page 1 of 3.

1. County: Santa Barbara
2. USGS Quad: Solvang (7.5') 1959 (Photorevised) 1982
3. UTM Coordinates: Zone 10                      761610 m Easting                      3830390 m Northing
4. Township 6 N                      Range 31 W                      Unsectioned  
Base Meridian: SBM
5. Map Coordinates: 190 mm S                      390.5 mm E
6. Elevation: 440 ft amsl
7. Location: The artifact is at the southern edge of the Santa Ynez River Valley, just south of Solvang, California. From the intersection of Highway 246 and Alisal Road in Solvang, travel south on Alisal Road for 0.9 mi and turn right (west) into the entrance of the Solvang Wastewater Treatment Facility. Travel 0.25 mi west on this unnamed dirt road. The artifact is on the north side of the road within the CCWA pipeline ROW.
8. Artifact Description: The artifact is a utilized flake of green Franciscan chert.
9. Collected: Yes                      10. Curated At: University of California, Santa Barbara
11. Nearest Water (type, distance and direction): A meander of the Santa Ynez River is 200 m north.
12. Vegetation Community (site vicinity): Oak woodland, grassland
13. Landform: Stream terrace
14. Geology: Middle miocene marine
15. Exposure: Open, 360°                      16. Slope: 2 - 3% at 0°
17. Landowner(s) (and/or tenants) and Address: P. Jackson
18. Remarks: The artifact was found while monitoring topsoil removal for pipeline construction of the Central Coast Aqueduct Project at station number 1697 + 50.
19. References: None
20. Name of Project: Mission Hills and Santa Ynez Extensions of the Central Coast Aqueduct Project
21. Photographs: None

State of California—The Resources Agency  
DEPARTMENT OF PARKS AND RECREATION

INFORMATION CENTER Reference Number SBC-150-556

ISOLATE RECORD

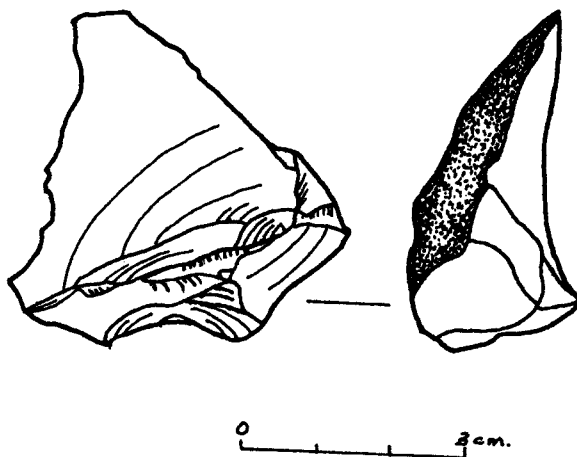
Other Designations: CCAP-ISO-C-4

Page 2 of 3.

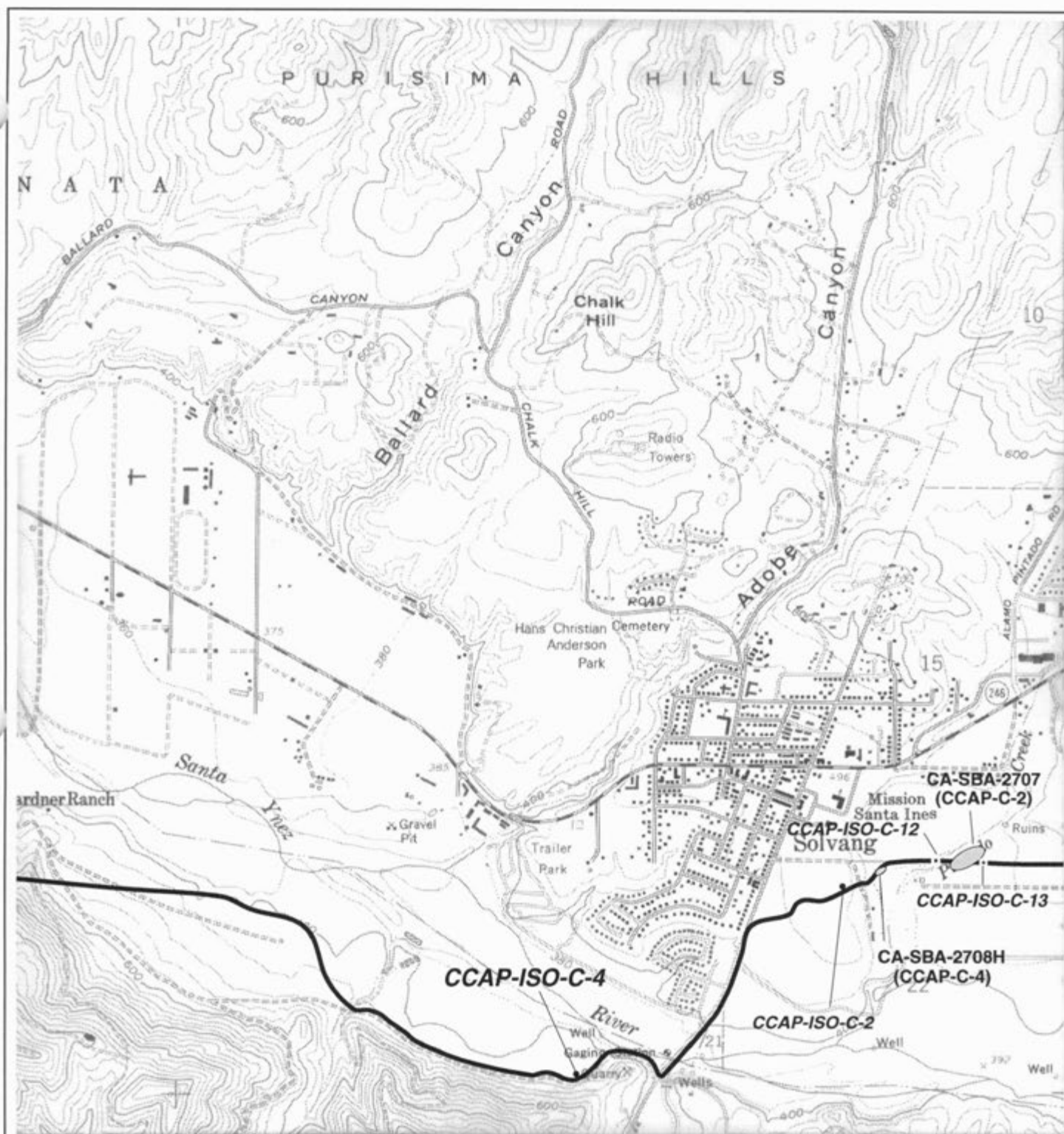
22. Date Recorded: 1 November 1994

23. Recorded By: A. Knight

24. Affiliation and Address: INFOTEC Research, Inc., 5088 N. Fruit Avenue, Suite 101, Fresno, CA, 93711







Quad Name:  
Solvang, CA  
T6N  
R31W

↑N

1 Mile

Contour Interval: 40 Feet

Archaeological Site

Isolate

CCWA Pipeline

Figure: 2

## ISOLATE LOCATION MAP

Coastal Aqueduct, Phase 2

Mission Hills/  
Santa Ynez Extension

**CCAP-ISO-C-4**



---

## **APPENDIX E**

### **Noise Measurement Data**



**Measurement 1**

11/14/2019

**Summary**

Filename 831\_Data.397  
Serial Number 1671  
Model Model 831  
Firmware Version 2.314

User

Location

Job Description

Note

**Measurement Description**

Start 2019/11/14 12:05:51  
Stop 2019/11/14 12:20:57  
Duration 0:15:05.8  
Run Time 0:15:05.8  
Pause 0:00:00.0

Pre Calibration 2019/11/14 11:59:01  
Post Calibration None  
Calibration Deviation ---

**Overall Settings**

RMS Weight A Weighting  
Peak Weight A Weighting  
Detector Slow  
Preamplifier PRM831  
Microphone Correction Off  
Integration Method Linear  
Gain 20.0 dB  
Overload 125.0 dB

	A	C	Z
Under Range Peak	57.5	54.5	59.5 dB
Under Range Limit	24.8	25.6	33.5 dB
Noise Floor	15.7	16.5	21.8 dB

**Results**

LAeq 44.9 dB  
LAE 74.4 dB  
EA 3.081  $\mu\text{Pa}^2\text{h}$   
LApeak (max) 2019/11/14 12:16:09 83.2 dB  
LASmax 2019/11/14 12:13:49 52.3 dB  
LASmin 2019/11/14 12:10:43 41.5 dB  
SEA -99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration)	0	0.0 s
LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

**Community Noise**

	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	44.9	44.9	-99.9	44.9	44.9	-99.9	-99.9
LCeq	56.0 dB						
LAeq	44.9 dB						
LCeq - LAeq	11.1 dB						
LAeq	48.5 dB						
LAeq	44.9 dB						
LAeq - LAeq	3.6 dB						
# Overloads	0						
Overload Duration	0.0 s						

**Statistics**

LAS0.00 -99.9 dB  
LAS1.67 49.2 dB  
LAS8.33 47.2 dB  
LAS25.00 45.2 dB  
LAS50.00 44.0 dB  
LAS90.00 42.9 dB

### Calibration History

Prereq	Date	db re. 1V/PA	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000										
PRM831	2019/11/14 11:59:01	-27.5	87.3	72.1	71.9	75.61	69.0	63.90	56.1	54.3	60.1	56.2	54.5	60.5	59.8	55.6	53.6	46.7	43.9	40.0	32.9	29.2	31.2	113.6	48.8	28.8	64.4	31.9	35.9	33.4	35.0	35.2	36.6	37.5	37.9	38.8	41.6	
PRM831	2019/09/26 15:08:50	-27.2	74.2	66.2	56.2	55.4	65.6	60.6	54.4	55.9	53.9	51.2	54.2	52.2	52.9	53.9	45.8	46.5	47.3	46.2	44.3	37.6	32.4	31.9	114.0	49.1	28.6	62.5	30.1	56.8	43.0	41.4	37.7	37.5	37.9	38.8	41.6	
PRM831	2019/09/26 15:08:35	-27.2	64.8	74.8	74.2	62.1	65.4	57.1	64.3	66.4	64.6	63.7	58.9	60.3	55.4	58.1	59.7	58.0	55.0	54.8	47.9	41.9	33.6	31.7	114.4	49.6	29.4	65.0	31.1	59.0	35.9	35.7	36.2	37.0	38.1	38.9	40.4	42.0
PRM831	2019/09/26 7:12:43	-27.6	62.0	58.6	56.9	56.4	54.9	67.0	62.6	80.3	62.0	48.7	53.1	49.3	50.7	46.5	44.3	44.9	50.5	45.6	37.0	30.5	31.0	114.0	49.1	29.5	64.4	31.8	58.1	34.3	34.9	35.7	36.9	37.9	38.8	40.2	41.7	
PRM831	2019/09/26 7:12:30	-27.6	63.5	51.7	58.4	60.1	65.0	67.6	63.3	59.4	80.7	57.3	48.7	50.1	48.7	48.2	48.4	45.7	43.3	51.4	44.4	37.3	32.2	33.6	114.4	49.4	29.6	64.6	32.2	58.7	36.1	36.0	36.5	37.5	38.5	39.6	40.5	42.5
PRM831	2019/09/25 7:16:30	-28.0	64.1	66.1	64.9	61.0	65.2	87.7	86.3	88.8	63.2	61.3	64.0	56.1	52.2	51.8	55.5	54.6	55.1	55.0	51.6	39.6	30.3	31.2	113.9	49.0	30.1	63.0	32.0	57.0	37.4	35.3	35.7	37.1	38.3	39.3	40.6	42.4
PRM831	2019/09/25 7:16:15	-28.0	61.2	59.4	57.2	60.7	71.3	84.8	64.2	88.9	55.6	60.2	64.1	56.6	55.7	56.7	56.6	55.9	54.3	58.6	57.4	59.7	57.4	53.3	113.9	50.6	35.7	63.0	31.1	57.6	34.3	35.1	36.2	37.4	38.3	39.4	40.5	42.4
PRM831	2019/09/25 7:16:00	-28.1	73.4	70.8	61.8	63.1	73.8	86.0	88.0	88.6	61.1	61.2	64.8	63.1	60.3	52.7	53.6	51.9	50.2	51.5	50.2	38.9	30.7	31.7	114.2	49.3	36.4	64.1	32.4	61.3	45.9	41.1	41.9	39.8	39.5	39.6	40.8	42.5
PRM831	2019/09/25 7:15:43	-27.9	70.3	70.5	67.5	62.8	65.1	65.7	69.1	91.3	60.3	64.2	67.5	52.5	59.1	54.2	54.9	52.5	48.6	48.3	44.0	40.5	32.9	30.3	114.1	49.2	29.7	63.6	32.4	58.1	35.3	35.4	36.2	37.5	38.6	39.6	40.6	42.6
PRM831	2019/09/25 7:15:30	-28.2	68.2	67.9	67.0	61.1	57.3	72.4	66.3	91.3	62.6	65.1	69.2	50.4	53.0	53.0	53.1	52.1	48.4	47.9	45.8	43.1	35.1	31.5	114.1	49.0	30.4	63.5	32.3	58.5	35.1	35.5	36.2	37.5	38.7	39.8	40.9	42.6
PRM831	2019/09/24 7:11:57	-28.3	62.6	69.5	68.1	60.4	64.8	65.1	63.5	82.9	57.5	55.3	60.9	51.4	47.8	51.5	46.0	54.5	47.9	49.9	51.0	42.8	38.4	33.8	114.0	48.8	30.2	63.2	32.8	57.4	34.4	35.2	36.3	37.5	38.6	39.9	40.6	42.5

Record #	Date	Time	Record Type	Cause	#	TH Record
1	2019/11/14	12:05:51	Run	Key	1	1
2	2019/11/14	12:20:57	Stop	Key	1	18

Statistics		
Level (dB)	Count	Percent
Under	0	0.00
41.5	24	0.03
41.6	98	0.11
41.7	214	0.24
41.8	186	0.21
41.9	370	0.41
42.0	247	0.27
42.1	497	0.55
42.2	621	0.69
42.3	502	0.55
42.4	614	0.68
42.5	718	0.79
42.6	957	1.06
42.7	1424	1.57
42.8	1848	2.04
42.9	2170	2.40
43.0	2400	2.65
43.1	2579	2.85
43.2	2661	2.94
43.3	2733	3.02
43.4	3543	3.91
43.5	3356	3.71
43.6	3167	3.50
43.7	3913	4.32
43.8	3733	4.12
43.9	3387	3.74
44.0	3450	3.81
44.1	3080	3.40
44.2	2708	2.99
44.3	2588	2.86
44.4	1921	2.12
44.5	1684	1.86
44.6	1786	1.97
44.7	1862	2.06
44.8	1789	1.98
44.9	1719	1.90
45.0	1437	1.59
45.1	1351	1.49
45.2	1439	1.59
45.3	1260	1.39
45.4	1093	1.21
45.5	964	1.06
45.6	808	0.89
45.7	944	1.04
45.8	1050	1.16



45.9	930	1.03
46.0	805	0.89
46.1	655	0.72
46.2	705	0.78
46.3	625	0.69
46.4	615	0.68
46.5	578	0.64
46.6	539	0.60
46.7	539	0.60
46.8	475	0.52
46.9	496	0.55
47.0	427	0.47
47.1	392	0.43
47.2	360	0.40
47.3	378	0.42
47.4	369	0.41
47.5	373	0.41
47.6	362	0.40
47.7	324	0.36
47.8	355	0.39
47.9	358	0.40
48.0	335	0.37
48.1	292	0.32
48.2	303	0.33
48.3	288	0.32
48.4	389	0.43
48.5	277	0.31
48.6	261	0.29
48.7	264	0.29
48.8	224	0.25
48.9	246	0.27
49.0	216	0.24
49.1	216	0.24
49.2	241	0.27
49.3	236	0.26
49.4	190	0.21
49.5	155	0.17
49.6	168	0.19
49.7	127	0.14
49.8	84	0.09
49.9	99	0.11
50.0	109	0.12
50.1	57	0.06
50.2	38	0.04
50.3	39	0.04
50.4	52	0.06
50.5	12	0.01

<b>50.6</b>	9	0.01
<b>50.7</b>	10	0.01
<b>50.8</b>	2	0.00
<b>50.9</b>	3	0.00
<b>51.0</b>	3	0.00
<b>51.1</b>	6	0.01
<b>51.2</b>	7	0.01
<b>51.3</b>	4	0.00
<b>51.4</b>	3	0.00
<b>51.5</b>	4	0.00
<b>51.6</b>	5	0.01
<b>51.7</b>	13	0.01
<b>51.8</b>	13	0.01
<b>51.9</b>	12	0.01
<b>52.0</b>	4	0.00
<b>52.1</b>	3	0.00
<b>52.2</b>	5	0.01
<b>52.3</b>	1	0.00
<b>Over</b>	0	0.00

**Total Count** 90580

[illegible]

Record #	Date	Time	Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time	LApeak (max)	LApeak (max) Time	SPL 1 Count	Duration	SPL 2 Count	Duration	Peak 1 Count	Duration	Peak 2 Count	Duration	Peak 3 Count	Duration	LA50.00	LAS1.67	LAS8.33	LAS25.00	LAS50.00	LAS90.00	SEA	LCeq	LAeq	LAeq - LAeq	LA1eq	LAeq	LA1eq-LAeq	# Overloads	Duration	
1	2019/11/14	12:09:51	00:09:08.6	00:09:08.6	00:00:00.0	45.4	72.8	41.5	12:10:43	52.3	12:13:49	79.1	12:08:00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	-99.9	49.5	48.1	46.0	44.6	42.9	-99.9	56.1	45.4	10.7	49.6	45.4	4.2	0	0.0
2	2019/11/14	12:15:00	00:05:57.2	00:05:57.2	00:00:00.0	43.8	69.4	41.9	12:18:42	50.5	12:16:09	83.2	12:16:09	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	-99.9	46.0	44.8	44.1	43.6	42.9	-99.9	55.9	43.8	12.0	45.8	43.8	1.9	0	0.0



**Measurement 2**

11/14/2019

**Summary**

Filename	831_Data.398
Serial Number	1671
Model	Model 831
Firmware Version	2.314
User	
Location	
Job Description	
Note	
Measurement Description	
Start	2019/11/14 12:24:14
Stop	2019/11/14 12:39:16
Duration	0:15:02.1
Run Time	0:15:02.1
Pause	0:00:00.0

Pre Calibration	2019/11/14 11:59:01
Post Calibration	None
Calibration Deviation	---

**Overall Settings**

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRM831
Microphone Correction	Off
Integration Method	Linear
Gain	20.0 dB
Overload	125.0 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	57.5	54.5	59.5 dB
Under Range Limit	24.8	25.6	33.5 dB
Noise Floor	15.7	16.5	21.8 dB

**Results**

LAeq	62.1 dB
LAE	91.7 dB
EA	162.928 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2019/11/14 12:32:50 89.3 dB
LASmax	2019/11/14 12:32:51 77.2 dB
LASmin	2019/11/14 12:28:49 52.2 dB
SEA	-99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration)	2	68.3 s
LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

**Community Noise**

	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	62.1	62.1	-99.9	62.1	62.1	-99.9	-99.9
LCeq	66.9 dB						
LAeq	62.1 dB						
LCeq - LAeq	4.8 dB						
LAeq	62.5 dB						
LAeq	62.1 dB						
LAeq - LAeq	0.4 dB						
# Overloads	0						
Overload Duration	0.0 s						

**Statistics**

LAS0.00	-99.9 dB
LAS1.67	67.1 dB
LAS8.33	64.5 dB
LAS25.00	63.7 dB
LAS50.00	56.8 dB
LAS90.00	52.8 dB

### Calibration History

Prereq	Date	db re. 1V/PA	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000										
PRM831	2019/11/14 11:59:01	-27.5	87.3	72.1	71.9	75.1	69.0	63.90	56.1	54.3	60.1	56.2	54.5	60.5	59.8	55.6	53.6	46.7	43.9	40.0	32.9	29.2	31.2	113.6	48.8	28.8	64.4	31.9	35.9	33.4	35.0	35.2	36.6	37.5	37.9	38.8	41.6	
PRM831	2019/09/26 15:08:50	-27.2	74.2	66.2	56.2	55.4	65.6	60.6	54.4	55.9	53.9	51.2	54.2	52.2	52.9	53.9	45.8	46.5	47.3	46.2	44.3	37.6	32.4	31.9	114.0	49.1	28.6	62.5	31.0	56.8	43.0	41.4	37.7	37.5	37.9	38.8	41.6	
PRM831	2019/09/26 15:08:35	-27.2	64.8	74.8	74.2	62.1	65.4	57.1	64.3	66.4	64.6	63.7	58.9	60.3	55.4	58.1	59.7	58.0	55.0	54.8	47.9	41.9	33.6	31.7	114.4	49.6	29.4	65.0	31.1	59.0	35.9	35.7	36.2	37.0	38.1	38.9	40.4	42.0
PRM831	2019/09/26 7:12:43	-27.6	62.0	58.6	56.9	56.4	54.9	67.0	62.6	80.3	62.0	48.7	53.1	49.3	50.7	46.5	44.3	44.9	50.5	45.6	37.0	30.5	31.0	114.0	49.1	29.5	64.4	31.8	58.1	34.3	34.9	35.7	36.9	37.9	38.8	40.2	41.7	
PRM831	2019/09/26 7:12:30	-27.6	63.5	51.7	58.4	60.1	65.0	67.6	63.3	59.4	80.7	57.3	48.7	50.1	48.7	48.2	48.4	45.7	43.3	41.4	34.7	32.2	33.6	114.4	49.4	29.6	64.6	32.2	58.7	36.1	36.0	36.5	37.5	38.5	39.6	40.5	42.5	
PRM831	2019/09/25 7:16:30	-28.0	64.1	66.1	64.9	61.0	65.2	87.7	86.3	88.8	63.2	61.3	64.0	56.1	52.2	51.8	55.5	54.6	55.1	55.0	51.6	39.6	30.3	31.2	113.9	49.0	30.1	63.0	32.0	57.7	34.4	35.3	35.7	37.1	38.3	39.3	40.6	42.4
PRM831	2019/09/25 7:16:15	-28.0	61.2	59.4	57.2	60.7	71.3	84.8	64.2	88.9	55.6	60.2	64.1	56.6	55.7	56.7	56.6	55.9	54.3	58.6	57.4	59.7	57.4	53.3	113.9	50.6	35.7	63.0	31.1	57.6	34.3	35.1	36.2	37.4	38.3	39.4	40.5	42.4
PRM831	2019/09/25 7:16:00	-28.1	73.4	70.8	61.8	63.1	73.8	86.0	88.0	88.6	61.1	61.2	64.8	63.1	60.3	52.7	53.6	51.9	50.2	51.5	50.2	38.9	30.7	31.7	114.2	49.3	36.4	64.1	32.4	61.3	45.9	41.1	41.9	39.8	39.5	39.6	40.8	42.5
PRM831	2019/09/25 7:15:43	-27.9	70.3	70.5	67.5	62.8	65.1	65.7	69.1	91.3	60.3	64.2	67.5	52.5	59.1	54.2	54.9	52.5	48.6	48.3	44.0	40.5	32.9	30.3	114.1	49.2	29.7	63.6	32.4	58.1	35.3	35.4	36.2	37.5	38.6	39.6	40.6	42.6
PRM831	2019/09/25 7:15:30	-28.2	67.0	67.0	61.7	57.3	72.4	66.3	91.3	62.6	65.1	69.2	50.4	53.0	53.0	53.1	52.1	48.4	47.9	49.9	45.8	43.1	35.1	31.5	114.1	49.0	30.4	63.5	32.3	58.5	35.1	35.5	36.2	37.5	38.7	39.8	40.9	42.6
PRM831	2019/09/24 7:11:57	-28.3	62.6	69.5	68.1	60.4	64.8	65.1	63.5	82.9	57.5	55.3	60.9	51.4	47.8	51.5	46.0	54.5	47.9	49.9	51.0	42.8	38.4	33.8	114.0	48.8	30.2	63.2	32.8	57.4	34.4	35.2	36.3	37.5	38.6	39.9	40.6	42.5

Record #	Date	Time	Record Type	Cause	#	TH Record
1	2019/11/14	12:24:14	Run	Key	1	1
2	2019/11/14	12:39:16	Stop	Key	1	18



Statistics		
Level (dB)	Count	Percent
Under	0	0.00
52.2	138	0.15
52.3	407	0.45
52.4	1206	1.34
52.5	1161	1.29
52.6	1443	1.60
52.7	2973	3.30
52.8	3765	4.17
52.9	3671	4.07
53.0	2799	3.10
53.1	4153	4.60
53.2	2626	2.91
53.3	2606	2.89
53.4	2129	2.36
53.5	2360	2.62
53.6	2088	2.31
53.7	1983	2.20
53.8	1535	1.70
53.9	1013	1.12
54.0	856	0.95
54.1	534	0.59
54.2	451	0.50
54.3	385	0.43
54.4	534	0.59
54.5	582	0.65
54.6	290	0.32
54.7	195	0.22
54.8	190	0.21
54.9	246	0.27
55.0	311	0.34
55.1	253	0.28
55.2	236	0.26
55.3	302	0.33
55.4	168	0.19
55.5	171	0.19
55.6	255	0.28
55.7	186	0.21
55.8	149	0.17
55.9	156	0.17
56.0	59	0.07
56.1	76	0.08
56.2	50	0.06
56.3	92	0.10
56.4	96	0.11
56.5	52	0.06

56.6	61	0.07
56.7	37	0.04
56.8	77	0.09
56.9	66	0.07
57.0	46	0.05
57.1	33	0.04
57.2	34	0.04
57.3	25	0.03
57.4	30	0.03
57.5	55	0.06
57.6	40	0.04
57.7	26	0.03
57.8	21	0.02
57.9	22	0.02
58.0	22	0.02
58.1	16	0.02
58.2	26	0.03
58.3	20	0.02
58.4	19	0.02
58.5	22	0.02
58.6	24	0.03
58.7	19	0.02
58.8	24	0.03
58.9	16	0.02
59.0	23	0.03
59.1	26	0.03
59.2	21	0.02
59.3	17	0.02
59.4	21	0.02
59.5	18	0.02
59.6	17	0.02
59.7	17	0.02
59.8	13	0.01
59.9	17	0.02
60.0	18	0.02
60.1	18	0.02
60.2	19	0.02
60.3	17	0.02
60.4	16	0.02
60.5	16	0.02
60.6	18	0.02
60.7	23	0.03
60.8	14	0.02
60.9	45	0.05
61.0	45	0.05
61.1	29	0.03
61.2	45	0.05

61.3	179	0.20
61.4	209	0.23
61.5	102	0.11
61.6	166	0.18
61.7	157	0.17
61.8	225	0.25
61.9	169	0.19
62.0	116	0.13
62.1	90	0.10
62.2	251	0.28
62.3	357	0.40
62.4	338	0.37
62.5	534	0.59
62.6	651	0.72
62.7	620	0.69
62.8	751	0.83
62.9	1537	1.70
63.0	1720	1.91
63.1	1568	1.74
63.2	1578	1.75
63.3	1810	2.01
63.4	1934	2.14
63.5	2278	2.53
63.6	2477	2.75
63.7	2729	3.03
63.8	2508	2.78
63.9	2898	3.21
64.0	1836	2.04
64.1	2126	2.36
64.2	1710	1.90
64.3	1048	1.16
64.4	1581	1.75
64.5	1254	1.39
64.6	800	0.89
64.7	344	0.38
64.8	466	0.52
64.9	344	0.38
65.0	190	0.21
65.1	110	0.12
65.2	147	0.16
65.3	492	0.55
65.4	449	0.50
65.5	434	0.48
65.6	219	0.24
65.7	111	0.12
65.8	79	0.09
65.9	45	0.05

66.0	44	0.05
66.1	46	0.05
66.2	68	0.08
66.3	62	0.07
66.4	107	0.12
66.5	90	0.10
66.6	113	0.13
66.7	69	0.08
66.8	61	0.07
66.9	30	0.03
67.0	33	0.04
67.1	26	0.03
67.2	22	0.02
67.3	32	0.04
67.4	29	0.03
67.5	34	0.04
67.6	37	0.04
67.7	58	0.06
67.8	47	0.05
67.9	39	0.04
68.0	16	0.02
68.1	12	0.01
68.2	10	0.01
68.3	13	0.01
68.4	10	0.01
68.5	9	0.01
68.6	13	0.01
68.7	11	0.01
68.8	9	0.01
68.9	7	0.01
69.0	11	0.01
69.1	7	0.01
69.2	9	0.01
69.3	9	0.01
69.4	9	0.01
69.5	10	0.01
69.6	8	0.01
69.7	11	0.01
69.8	12	0.01
69.9	9	0.01
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70.1	11	0.01
70.2	10	0.01
70.3	8	0.01
70.4	8	0.01
70.5	10	0.01
70.6	7	0.01

70.7	8	0.01
70.8	6	0.01
70.9	8	0.01
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71.9	12	0.01
72.0	10	0.01
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72.2	8	0.01
72.3	12	0.01
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72.5	10	0.01
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73.2	7	0.01
73.3	11	0.01
73.4	10	0.01
73.5	13	0.01
73.6	9	0.01
73.7	12	0.01
73.8	10	0.01
73.9	17	0.02
74.0	14	0.02
74.1	18	0.02
74.2	18	0.02
74.3	15	0.02
74.4	17	0.02
74.5	20	0.02
74.6	15	0.02
74.7	12	0.01
74.8	15	0.02
74.9	14	0.02
75.0	12	0.01
75.1	17	0.02
75.2	9	0.01
75.3	15	0.02

<b>75.4</b>	16	0.02
<b>75.5</b>	15	0.02
<b>75.6</b>	13	0.01
<b>75.7</b>	14	0.02
<b>75.8</b>	12	0.01
<b>75.9</b>	14	0.02
<b>76.0</b>	10	0.01
<b>76.1</b>	12	0.01
<b>76.2</b>	18	0.02
<b>76.3</b>	18	0.02
<b>76.4</b>	16	0.02
<b>76.5</b>	20	0.02
<b>76.6</b>	34	0.04
<b>76.7</b>	22	0.02
<b>76.8</b>	23	0.03
<b>76.9</b>	28	0.03
<b>77.0</b>	64	0.07
<b>77.1</b>	37	0.04
<b>77.2</b>	6	0.01
<b>Over</b>	0	0.00

**Total Count** 90210

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Record #	Date	Time	Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmax	LASmax Time	LApeak (max) Time	SPL 1 Count	Duration	SPL 2 Count	Duration	Peak 1 Count	Duration	Peak 2 Count	Duration	Peak 3 Count	Duration	LA50.00	LAS1.67	LAS8.33	LAS25.00	LAS50.00	LAS90.00	SEA	LCeq	LAeq	LAeq - LAeq	# Overloads	Duration				
1	2019/11/14	12:24:14	00:05:45.7	00:05:45.7	00:00:00.0	55.3	80.7	52.2	12:28:49	67.9	12:26:13	84.8	12:24:29	1	7.1	0	0.0	0	0.0	0	0.0	0.0	-99.9	65.0	55.7	53.8	53.2	52.6	-99.9	64.1	55.3	8.7	56.3	55.3	1.0	0	0.0
2	2019/11/14	12:30:00	00:09:16.4	00:09:16.4	00:00:00.0	63.8	91.3	52.5	12:30:47	77.2	12:32:51	89.3	12:32:50	1	61.2	0	0.0	0	0.0	0	0.0	0.0	-99.9	70.7	64.8	64.0	63.5	53.2	-99.9	68.0	63.8	4.2	64.2	63.8	0.3	0	0.0





**Measurement 3**

11/14/2019

# Summary

Filename 831\_Data.399  
 Serial Number 1671  
 Model 831  
 Firmware Version 2.314  
 User  
 Location  
 Job Description  
 Note  
 Measurement Description  
 Start 2019/11/14 12:47:09  
 Stop 2019/11/14 13:02:11  
 Duration 0:15:02.0  
 Run Time 0:15:02.0  
 Pause 0:00:00.0

Pre Calibration 2019/11/14 11:59:01  
 Post Calibration None  
 Calibration Deviation ---

## Overall Settings

RMS Weight A Weighting  
 Peak Weight A Weighting  
 Detector Slow  
 Preamplifier PRM831  
 Microphone Correction Off  
 Integration Method Linear  
 Gain 20.0 dB  
 Overload 125.0 dB

	A	C	Z
Under Range Peak	57.5	54.5	59.5 dB
Under Range Limit	24.8	25.6	33.5 dB
Noise Floor	15.7	16.5	21.8 dB

## Results

LAeq 45.9 dB  
 LAE 75.4 dB  
 EA 3.872  $\mu\text{Pa}^2\text{h}$   
 LApeak (max) 2019/11/14 13:01:45 90.0 dB  
 LASmax 2019/11/14 12:48:11 62.6 dB  
 LASmin 2019/11/14 12:59:26 31.0 dB  
 SEA -99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration)	0	0.0 s
LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

## Community Noise

	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	45.9	45.9	-99.9	45.9	45.9	-99.9	-99.9
LCeq	57.4 dB						
LAeq	45.9 dB						
LCeq - LAeq	11.6 dB						
LAeq	50.5 dB						
LAeq	45.9 dB						
LAeq - LAeq	4.7 dB						
# Overloads	0						
Overload Duration	0.0 s						

## Statistics

LAS0.00 -99.9 dB  
 LAS1.67 56.8 dB  
 LAS8.33 48.9 dB  
 LAS25.00 42.2 dB  
 LAS50.00 37.3 dB  
 LAS90.00 33.1 dB

Calibration History

Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
PRM831	2019/11/14 11:59:01	-27.5	87.3	72.1	71.9	76.1	69.0	63.9	60.0	56.1	54.3	60.1	56.2	54.5	60.5	59.8	55.6	53.6	46.7	43.9	40.0	32.9	29.2	31.2	113.6	48.8	28.8	64.4	31.9	59.6	33.4	35.0	35.2	36.6	37.5	38.9	39.8	41.6
PRM831	2019/09/26 15:08:50	-27.2	74.2	66.8	56.2	55.4	65.6	60.6	54.4	55.9	53.9	51.2	54.2	52.2	52.9	53.9	45.8	46.5	47.3	46.2	44.3	37.6	32.4	31.9	114.0	49.1	28.6	62.5	31.0	56.8	43.0	41.4	37.7	37.5	37.9	38.8	39.8	41.4
PRM831	2019/09/26 15:08:35	-27.2	74.2	59.4	59.4	62.1	65.4	57.1	64.3	66.4	64.6	63.7	58.9	60.3	55.4	58.1	59.7	58.0	55.0	54.8	47.9	41.9	33.6	31.7	114.4	49.6	29.4	65.0	31.1	59.0	35.9	35.7	36.2	37.0	38.1	38.9	40.4	42.0
PRM831	2019/09/26 7:12:43	-27.6	62.0	58.6	56.9	56.4	54.9	67.8	65.0	62.6	80.3	62.0	48.7	53.1	49.3	50.7	46.5	44.3	44.9	50.5	45.6	37.0	30.5	31.0	114.0	49.1	29.5	64.4	31.8	58.1	34.3	34.9	35.7	36.9	37.9	38.8	40.2	41.7
PRM831	2019/09/26 7:12:30	-27.6	63.5	51.7	58.4	60.1	65.0	67.6	63.3	59.4	80.7	57.3	48.7	50.1	48.7	48.2	48.4	45.7	43.3	51.4	44.4	37.3	32.2	33.6	114.4	49.4	29.6	64.6	32.2	58.7	36.1	36.0	36.5	37.5	38.5	39.6	40.5	42.5
PRM831	2019/09/25 7:16:30	-28.0	64.1	66.1	64.9	61.0	65.2	87.7	66.3	88.8	63.2	61.3	64.0	56.1	52.2	51.8	55.5	54.6	55.1	55.0	51.6	39.6	30.3	31.2	113.9	49.0	30.1	63.0	32.0	57.7	34.4	35.3	35.7	37.1	38.3	39.3	40.6	42.4
PRM831	2019/09/25 7:16:15	-28.0	61.2	59.4	57.2	60.7	71.3	84.8	64.2	88.9	55.6	60.2	64.1	56.6	55.7	56.7	56.6	55.9	54.3	58.6	57.4	59.7	57.4	53.3	113.9	50.6	35.7	63.0	31.1	57.6	34.3	35.1	36.2	37.4	38.3	39.4	40.5	42.4
PRM831	2019/09/25 7:16:00	-27.9	73.4	70.8	61.8	63.1	73.8	86.0	68.0	88.6	61.1	61.2	64.8	63.1	60.3	52.7	53.6	51.9	50.2	51.5	50.2	38.9	37.0	37.1	114.2	49.3	36.4	64.1	32.4	61.3	45.9	41.1	41.9	39.8	39.5	39.6	40.8	42.5
PRM831	2019/09/25 7:15:43	-28.1	70.3	70.5	67.5	62.8	65.1	65.7	69.1	91.3	60.3	64.2	67.5	52.5	59.1	54.2	54.9	52.5	48.6	48.3	44.0	40.5	32.9	30.3	114.1	49.2	29.7	63.6	32.4	58.1	35.3	35.4	36.2	37.5	38.6	39.6	40.6	42.6
PRM831	2019/09/25 7:15:30	-28.2	68.2	67.9	67.0	61.1	57.3	72.4	66.3	91.3	62.6	65.1	69.2	50.4	53.0	53.0	53.1	52.1	48.4	47.9	45.8	43.1	35.1	31.5	114.1	49.0	30.4	63.5	32.3	58.5	35.1	35.5	36.2	37.5	38.7	39.8	40.9	42.6
PRM831	2019/09/24 7:11:57	-28.3	62.6	59.5	68.1	64.0	64.8	65.1	63.5	82.9	57.5	55.3	60.9	51.4	47.8	51.5	46.0	54.5	47.9	49.9	51.0	42.8	38.4	33.8	114.0	48.8	30.2	63.2	32.8	57.4	34.4	35.2	36.3	37.5	38.6	39.9	40.6	42.5

Record #	Date	Time	Record Type	Cause	#	TH Record
1	2019/11/14	12:47:09	Run	Key	1	1
2	2019/11/14	13:02:11	Stop	Key	1	18

Statistics		
Level (dB)	Count	Percent
Under	0	0.00
31.0	31	0.03
31.1	26	0.03
31.2	14	0.02
31.3	55	0.06
31.4	180	0.20
31.5	207	0.23
31.6	383	0.42
31.7	488	0.54
31.8	445	0.49
31.9	449	0.50
32.0	558	0.62
32.1	552	0.61
32.2	463	0.51
32.3	543	0.60
32.4	727	0.81
32.5	523	0.58
32.6	342	0.38
32.7	468	0.52
32.8	579	0.64
32.9	819	0.91
33.0	730	0.81
33.1	563	0.62
33.2	647	0.72
33.3	595	0.66
33.4	646	0.72
33.5	629	0.70
33.6	666	0.74
33.7	725	0.80
33.8	1179	1.31
33.9	1114	1.24
34.0	869	0.96
34.1	734	0.81
34.2	585	0.65
34.3	699	0.77
34.4	702	0.78
34.5	823	0.91
34.6	810	0.90
34.7	798	0.88
34.8	815	0.90
34.9	813	0.90
35.0	922	1.02
35.1	798	0.88
35.2	735	0.81
35.3	925	1.03

35.4	906	1.00
35.5	823	0.91
35.6	837	0.93
35.7	886	0.98
35.8	1196	1.33
35.9	1089	1.21
36.0	938	1.04
36.1	851	0.94
36.2	995	1.10
36.3	1393	1.54
36.4	1375	1.52
36.5	1058	1.17
36.6	985	1.09
36.7	749	0.83
36.8	746	0.83
36.9	813	0.90
37.0	871	0.97
37.1	796	0.88
37.2	708	0.78
37.3	753	0.83
37.4	732	0.81
37.5	688	0.76
37.6	797	0.88
37.7	644	0.71
37.8	685	0.76
37.9	669	0.74
38.0	682	0.76
38.1	602	0.67
38.2	559	0.62
38.3	555	0.62
38.4	604	0.67
38.5	599	0.66
38.6	637	0.71
38.7	654	0.73
38.8	565	0.63
38.9	607	0.67
39.0	587	0.65
39.1	627	0.70
39.2	574	0.64
39.3	519	0.58
39.4	415	0.46
39.5	397	0.44
39.6	373	0.41
39.7	364	0.40
39.8	433	0.48
39.9	471	0.52
40.0	521	0.58

40.1	452	0.50
40.2	446	0.49
40.3	385	0.43
40.4	313	0.35
40.5	344	0.38
40.6	354	0.39
40.7	358	0.40
40.8	390	0.43
40.9	320	0.35
41.0	311	0.34
41.1	336	0.37
41.2	321	0.36
41.3	286	0.32
41.4	261	0.29
41.5	277	0.31
41.6	229	0.25
41.7	243	0.27
41.8	353	0.39
41.9	312	0.35
42.0	327	0.36
42.1	303	0.34
42.2	297	0.33
42.3	325	0.36
42.4	396	0.44
42.5	345	0.38
42.6	409	0.45
42.7	356	0.39
42.8	318	0.35
42.9	280	0.31
43.0	254	0.28
43.1	320	0.35
43.2	296	0.33
43.3	322	0.36
43.4	359	0.40
43.5	477	0.53
43.6	376	0.42
43.7	375	0.42
43.8	331	0.37
43.9	285	0.32
44.0	298	0.33
44.1	306	0.34
44.2	328	0.36
44.3	302	0.33
44.4	237	0.26
44.5	248	0.27
44.6	219	0.24
44.7	260	0.29

44.8	310	0.34
44.9	296	0.33
45.0	209	0.23
45.1	187	0.21
45.2	210	0.23
45.3	206	0.23
45.4	176	0.20
45.5	198	0.22
45.6	236	0.26
45.7	193	0.21
45.8	227	0.25
45.9	201	0.22
46.0	174	0.19
46.1	208	0.23
46.2	208	0.23
46.3	161	0.18
46.4	145	0.16
46.5	201	0.22
46.6	155	0.17
46.7	185	0.21
46.8	193	0.21
46.9	158	0.18
47.0	107	0.12
47.1	102	0.11
47.2	114	0.13
47.3	109	0.12
47.4	102	0.11
47.5	129	0.14
47.6	129	0.14
47.7	134	0.15
47.8	97	0.11
47.9	126	0.14
48.0	102	0.11
48.1	119	0.13
48.2	107	0.12
48.3	72	0.08
48.4	108	0.12
48.5	117	0.13
48.6	157	0.17
48.7	133	0.15
48.8	149	0.17
48.9	97	0.11
49.0	129	0.14
49.1	140	0.16
49.2	164	0.18
49.3	119	0.13
49.4	109	0.12



49.5	100	0.11
49.6	76	0.08
49.7	67	0.07
49.8	76	0.08
49.9	155	0.17
50.0	145	0.16
50.1	103	0.11
50.2	84	0.09
50.3	100	0.11
50.4	108	0.12
50.5	105	0.12
50.6	88	0.10
50.7	85	0.09
50.8	119	0.13
50.9	150	0.17
51.0	151	0.17
51.1	121	0.13
51.2	173	0.19
51.3	161	0.18
51.4	129	0.14
51.5	145	0.16
51.6	161	0.18
51.7	113	0.13
51.8	169	0.19
51.9	157	0.17
52.0	120	0.13
52.1	161	0.18
52.2	104	0.12
52.3	127	0.14
52.4	86	0.10
52.5	106	0.12
52.6	78	0.09
52.7	100	0.11
52.8	48	0.05
52.9	44	0.05
53.0	63	0.07
53.1	44	0.05
53.2	53	0.06
53.3	52	0.06
53.4	53	0.06
53.5	40	0.04
53.6	59	0.07
53.7	69	0.08
53.8	33	0.04
53.9	28	0.03
54.0	39	0.04
54.1	27	0.03

54.2	37	0.04
54.3	59	0.07
54.4	50	0.06
54.5	44	0.05
54.6	21	0.02
54.7	45	0.05
54.8	20	0.02
54.9	19	0.02
55.0	16	0.02
55.1	18	0.02
55.2	15	0.02
55.3	20	0.02
55.4	11	0.01
55.5	17	0.02
55.6	23	0.03
55.7	18	0.02
55.8	25	0.03
55.9	34	0.04
56.0	19	0.02
56.1	25	0.03
56.2	28	0.03
56.3	41	0.05
56.4	35	0.04
56.5	41	0.05
56.6	42	0.05
56.7	26	0.03
56.8	23	0.03
56.9	26	0.03
57.0	40	0.04
57.1	40	0.04
57.2	46	0.05
57.3	24	0.03
57.4	36	0.04
57.5	20	0.02
57.6	19	0.02
57.7	10	0.01
57.8	17	0.02
57.9	17	0.02
58.0	28	0.03
58.1	28	0.03
58.2	17	0.02
58.3	12	0.01
58.4	15	0.02
58.5	24	0.03
58.6	32	0.04
58.7	18	0.02
58.8	23	0.03

58.9	13	0.01
59.0	10	0.01
59.1	18	0.02
59.2	18	0.02
59.3	13	0.01
59.4	22	0.02
59.5	13	0.01
59.6	9	0.01
59.7	43	0.05
59.8	44	0.05
59.9	26	0.03
60.0	20	0.02
60.1	18	0.02
60.2	15	0.02
60.3	37	0.04
60.4	15	0.02
60.5	20	0.02
60.6	8	0.01
60.7	7	0.01
60.8	13	0.01
60.9	15	0.02
61.0	12	0.01
61.1	17	0.02
61.2	17	0.02
61.3	49	0.05
61.4	17	0.02
61.5	29	0.03
61.6	13	0.01
61.7	20	0.02
61.8	57	0.06
61.9	140	0.16
62.0	60	0.07
62.1	32	0.04
62.2	20	0.02
62.3	7	0.01
62.4	26	0.03
62.5	85	0.09
62.6	13	0.01
Over	0	0.00

**Total Count** 90200

[illegible]

Record #	Date	Time	Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time	LApeak (max)	LApeak (max) Time	SPL 1 Count	Duration	SPL 2 Count	Duration	Peak 1 Count	Duration	Peak 2 Count	Duration	Peak 3 Count	Duration	LA50.00	LA51.67	LA58.33	LA525.00	LA550.00	LA590.00	SEA	LCeq	LAeq	LCeq - LAeq	LA1eq	LAeq	LA1eq-LAeq	# Overloads	Duration	
1	2019/11/14	12:47:09	00:12:50.4	00:12:50.4	00:00:00.0	45.1	74.0	31.0	12:59:26	62.6	12:48:11	86.5	12:48:05	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	-99.9	55.3	47.9	41.5	37.3	33.1	-99.9	57.8	45.1	12.7	49.6	45.1	4.5	0	0.0
2	2019/11/14	13:00:00	00:02:11.6	00:02:11.6	00:00:00.0	48.7	69.9	31.6	13:00:42	62.0	13:01:45	90.0	13:01:45	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	-99.9	60.4	52.4	46.0	37.6	33.2	-99.9	54.6	48.7	5.9	53.9	48.7	5.2	0	0.0



**Measurement 4**

11/14/2019

**Summary**

Filename	831_Data.400
Serial Number	1671
Model	Model 831
Firmware Version	2.314
User	
Location	
Job Description	
Note	
Measurement Description	
Start	2019/11/14 13:04:58
Stop	2019/11/14 13:20:04
Duration	0:15:06.4
Run Time	0:15:06.4
Pause	0:00:00.0

Pre Calibration	2019/11/14 11:59:01
Post Calibration	None
Calibration Deviation	---

**Overall Settings**

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRM831
Microphone Correction	Off
Integration Method	Linear
Gain	20.0 dB
Overload	125.0 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	57.5	54.5	59.5 dB
Under Range Limit	24.8	25.6	33.5 dB
Noise Floor	15.7	16.5	21.8 dB

**Results**

LAeq	59.2 dB
LAE	88.7 dB
EA	83.311 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2019/11/14 13:05:21 97.2 dB
LASmax	2019/11/14 13:08:29 80.2 dB
LASmin	2019/11/14 13:13:33 31.5 dB
SEA	-99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration)	14	62.5 s
LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

**Community Noise**

	<b>Ldn</b>	<b>LDay 07:00-22:00</b>	<b>LNight 22:00-07:00</b>	<b>Lden</b>	<b>LDay 07:00-19:00</b>	<b>LEvening 19:00-22:00</b>	<b>LNight 22:00-07:00</b>
	59.2	59.2	-99.9	59.2	59.2	-99.9	-99.9
LCeq	66.7 dB						
LAeq	59.2 dB						
LCeq - LAeq	7.5 dB						
LAeq	63.7 dB						
LAeq	59.2 dB						
LAeq - LAeq	4.5 dB						
# Overloads	0						
Overload Duration	0.0 s						

**Statistics**

LAS0.00	-99.9 dB
LAS1.67	70.6 dB
LAS8.33	61.7 dB
LAS25.00	50.6 dB
LAS50.00	43.6 dB
LAS90.00	34.4 dB

**Calibration History**

Calibration History

Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
PRM831	2019/11/14 11:59:01	-27.5	87.3	72.1	71.9	76.1	69.0	63.9	60.0	56.1	54.3	60.1	56.2	54.5	60.5	59.8	55.6	53.6	46.7	43.9	40.0	32.9	29.2	31.2	113.6	48.8	28.8	64.4	31.9	59.6	33.4	35.0	35.2	36.6	37.5	38.9	39.8	41.6
PRM831	2019/09/26 15:08:50	-27.2	74.2	66.8	56.2	55.4	65.6	60.6	54.4	55.9	53.9	51.2	54.2	52.2	52.9	53.9	45.8	46.5	47.3	46.2	44.3	37.6	32.4	31.9	114.0	49.1	28.6	62.5	31.0	56.8	43.0	41.4	37.7	37.5	37.9	38.8	39.8	41.4
PRM831	2019/09/26 15:08:35	-27.2	64.8	74.2	59.4	62.1	65.4	57.1	64.3	66.4	64.6	63.7	58.9	60.3	55.4	58.1	59.7	58.0	55.0	54.8	47.9	41.9	33.6	31.7	114.4	49.6	29.4	65.0	31.1	59.0	35.9	35.7	36.2	37.0	38.1	38.9	40.4	42.0
PRM831	2019/09/26 7:12:43	-27.6	62.0	58.6	56.9	56.4	54.9	67.8	65.0	62.6	80.3	62.0	48.7	53.1	49.3	50.7	46.5	44.3	44.9	50.5	45.6	37.0	30.5	31.0	114.0	49.1	29.5	64.4	31.8	58.1	34.3	34.9	35.7	36.9	37.9	38.8	40.2	41.7
PRM831	2019/09/26 7:12:30	-27.6	63.5	51.7	58.4	60.1	65.0	67.6	63.3	59.4	80.7	57.3	48.7	50.1	48.7	48.2	48.4	45.7	43.3	51.4	44.4	37.3	32.2	33.6	114.4	49.4	29.6	64.6	32.2	58.7	36.1	36.0	36.5	37.5	38.5	39.6	40.5	42.5
PRM831	2019/09/25 7:16:30	-28.0	64.1	66.1	64.9	61.0	65.2	87.7	66.3	88.8	63.2	61.3	64.0	56.1	52.2	51.8	55.5	54.6	55.1	55.0	51.6	39.6	30.3	31.2	113.9	49.0	30.1	63.0	32.0	57.7	34.4	35.3	35.7	37.1	38.3	39.3	40.6	42.4
PRM831	2019/09/25 7:16:15	-28.0	61.2	59.4	57.2	60.7	71.3	84.8	64.2	88.9	55.6	60.2	64.1	56.6	55.7	56.7	56.6	55.9	54.3	58.6	57.4	59.7	57.4	53.3	113.9	50.6	35.7	63.0	31.1	57.6	34.3	35.1	36.2	37.4	38.3	39.4	40.5	42.4
PRM831	2019/09/25 7:16:00	-27.9	73.4	70.8	61.8	63.1	73.8	86.0	68.0	88.6	61.1	61.2	64.8	63.1	60.3	52.7	53.6	51.9	50.2	51.5	50.2	38.9	37.0	37.1	114.2	49.3	36.4	64.1	32.4	61.3	45.9	41.1	41.9	39.8	39.5	39.6	40.8	42.5
PRM831	2019/09/25 7:15:43	-28.1	70.3	70.5	67.5	62.8	65.1	65.7	69.1	91.3	60.3	64.2	67.5	52.5	59.1	54.2	54.9	52.5	48.6	48.3	44.0	40.5	32.9	30.3	114.1	49.2	29.7	63.6	32.4	58.1	35.3	35.4	36.2	37.5	38.6	39.6	40.6	42.6
PRM831	2019/09/25 7:15:30	-28.2	68.2	67.9	67.0	61.1	57.3	72.4	66.3	91.3	62.6	65.1	69.2	50.4	53.0	53.1	52.1	48.4	47.9	45.8	43.1	35.1	31.5	114.1	49.0	30.4	63.5	32.3	58.5	35.1	35.5	36.2	37.5	38.7	39.8	40.9	42.6	
PRM831	2019/09/24 7:11:57	-28.3	62.6	59.5	68.1	64.0	64.8	65.1	63.5	82.9	57.5	55.3	60.9	51.4	47.8	51.5	46.0	54.5	47.9	49.9	51.0	42.8	38.4	33.8	114.0	48.8	30.2	63.2	32.8	57.4	34.4	35.2	36.3	37.5	38.6	39.9	40.6	42.5



Record #	Date	Time	Record Type	Cause	#	TH Record
1	2019/11/14	13:04:58	Run	Key	1	1
2	2019/11/14	13:20:04	Stop	Key	1	19

<b>Statistics</b>		
<b>Level (dB)</b>	<b>Count</b>	<b>Percent</b>
<b>Under</b>	0	0.00
<b>31.5</b>	5	0.01
<b>31.6</b>	43	0.05
<b>31.7</b>	48	0.05
<b>31.8</b>	29	0.03
<b>31.9</b>	39	0.04
<b>32.0</b>	54	0.06
<b>32.1</b>	38	0.04
<b>32.2</b>	69	0.08
<b>32.3</b>	81	0.09
<b>32.4</b>	155	0.17
<b>32.5</b>	236	0.26
<b>32.6</b>	125	0.14
<b>32.7</b>	269	0.30
<b>32.8</b>	335	0.37
<b>32.9</b>	309	0.34
<b>33.0</b>	203	0.22
<b>33.1</b>	185	0.20
<b>33.2</b>	305	0.34
<b>33.3</b>	680	0.75
<b>33.4</b>	373	0.41
<b>33.5</b>	263	0.29
<b>33.6</b>	316	0.35
<b>33.7</b>	513	0.57
<b>33.8</b>	816	0.90
<b>33.9</b>	828	0.91
<b>34.0</b>	829	0.91
<b>34.1</b>	580	0.64
<b>34.2</b>	630	0.70
<b>34.3</b>	607	0.67
<b>34.4</b>	613	0.68
<b>34.5</b>	507	0.56
<b>34.6</b>	451	0.50
<b>34.7</b>	633	0.70
<b>34.8</b>	854	0.94
<b>34.9</b>	591	0.65
<b>35.0</b>	661	0.73
<b>35.1</b>	569	0.63
<b>35.2</b>	423	0.47
<b>35.3</b>	550	0.61
<b>35.4</b>	722	0.80
<b>35.5</b>	672	0.74
<b>35.6</b>	634	0.70
<b>35.7</b>	528	0.58
<b>35.8</b>	360	0.40

35.9	439	0.48
36.0	607	0.67
36.1	673	0.74
36.2	691	0.76
36.3	642	0.71
36.4	593	0.65
36.5	555	0.61
36.6	415	0.46
36.7	570	0.63
36.8	598	0.66
36.9	428	0.47
37.0	513	0.57
37.1	610	0.67
37.2	611	0.67
37.3	509	0.56
37.4	544	0.60
37.5	600	0.66
37.6	504	0.56
37.7	393	0.43
37.8	288	0.32
37.9	261	0.29
38.0	227	0.25
38.1	242	0.27
38.2	264	0.29
38.3	262	0.29
38.4	256	0.28
38.5	327	0.36
38.6	325	0.36
38.7	282	0.31
38.8	253	0.28
38.9	251	0.28
39.0	296	0.33
39.1	242	0.27
39.2	269	0.30
39.3	214	0.24
39.4	179	0.20
39.5	208	0.23
39.6	166	0.18
39.7	183	0.20
39.8	201	0.22
39.9	186	0.21
40.0	235	0.26
40.1	187	0.21
40.2	264	0.29
40.3	263	0.29
40.4	266	0.29
40.5	332	0.37

40.6	255	0.28
40.7	296	0.33
40.8	284	0.31
40.9	336	0.37
41.0	295	0.33
41.1	246	0.27
41.2	287	0.32
41.3	250	0.28
41.4	264	0.29
41.5	228	0.25
41.6	233	0.26
41.7	265	0.29
41.8	314	0.35
41.9	269	0.30
42.0	333	0.37
42.1	274	0.30
42.2	344	0.38
42.3	334	0.37
42.4	416	0.46
42.5	492	0.54
42.6	537	0.59
42.7	477	0.53
42.8	552	0.61
42.9	442	0.49
43.0	284	0.31
43.1	291	0.32
43.2	317	0.35
43.3	337	0.37
43.4	346	0.38
43.5	387	0.43
43.6	308	0.34
43.7	426	0.47
43.8	412	0.45
43.9	417	0.46
44.0	314	0.35
44.1	288	0.32
44.2	307	0.34
44.3	241	0.27
44.4	252	0.28
44.5	290	0.32
44.6	382	0.42
44.7	271	0.30
44.8	349	0.39
44.9	471	0.52
45.0	575	0.63
45.1	469	0.52
45.2	431	0.48

45.3	290	0.32
45.4	307	0.34
45.5	388	0.43
45.6	443	0.49
45.7	402	0.44
45.8	351	0.39
45.9	339	0.37
46.0	439	0.48
46.1	383	0.42
46.2	346	0.38
46.3	316	0.35
46.4	349	0.39
46.5	307	0.34
46.6	298	0.33
46.7	302	0.33
46.8	307	0.34
46.9	333	0.37
47.0	344	0.38
47.1	321	0.35
47.2	324	0.36
47.3	329	0.36
47.4	288	0.32
47.5	251	0.28
47.6	250	0.28
47.7	233	0.26
47.8	220	0.24
47.9	199	0.22
48.0	256	0.28
48.1	265	0.29
48.2	229	0.25
48.3	228	0.25
48.4	329	0.36
48.5	352	0.39
48.6	307	0.34
48.7	268	0.30
48.8	287	0.32
48.9	340	0.38
49.0	351	0.39
49.1	309	0.34
49.2	315	0.35
49.3	307	0.34
49.4	330	0.36
49.5	395	0.44
49.6	354	0.39
49.7	356	0.39
49.8	322	0.36
49.9	257	0.28

50.0	234	0.26
50.1	257	0.28
50.2	262	0.29
50.3	266	0.29
50.4	267	0.29
50.5	289	0.32
50.6	296	0.33
50.7	369	0.41
50.8	246	0.27
50.9	306	0.34
51.0	270	0.30
51.1	246	0.27
51.2	225	0.25
51.3	225	0.25
51.4	247	0.27
51.5	211	0.23
51.6	239	0.26
51.7	230	0.25
51.8	296	0.33
51.9	256	0.28
52.0	249	0.27
52.1	231	0.25
52.2	214	0.24
52.3	231	0.25
52.4	233	0.26
52.5	212	0.23
52.6	187	0.21
52.7	267	0.29
52.8	202	0.22
52.9	141	0.16
53.0	158	0.17
53.1	162	0.18
53.2	130	0.14
53.3	118	0.13
53.4	154	0.17
53.5	164	0.18
53.6	138	0.15
53.7	141	0.16
53.8	134	0.15
53.9	119	0.13
54.0	163	0.18
54.1	159	0.18
54.2	170	0.19
54.3	165	0.18
54.4	147	0.16
54.5	150	0.17
54.6	133	0.15

54.7	127	0.14
54.8	139	0.15
54.9	140	0.15
55.0	139	0.15
55.1	125	0.14
55.2	105	0.12
55.3	107	0.12
55.4	107	0.12
55.5	103	0.11
55.6	94	0.10
55.7	90	0.10
55.8	91	0.10
55.9	99	0.11
56.0	92	0.10
56.1	88	0.10
56.2	94	0.10
56.3	93	0.10
56.4	99	0.11
56.5	94	0.10
56.6	96	0.11
56.7	96	0.11
56.8	146	0.16
56.9	135	0.15
57.0	129	0.14
57.1	120	0.13
57.2	112	0.12
57.3	114	0.13
57.4	115	0.13
57.5	109	0.12
57.6	109	0.12
57.7	105	0.12
57.8	94	0.10
57.9	105	0.12
58.0	102	0.11
58.1	107	0.12
58.2	104	0.11
58.3	79	0.09
58.4	86	0.09
58.5	78	0.09
58.6	90	0.10
58.7	84	0.09
58.8	91	0.10
58.9	87	0.10
59.0	83	0.09
59.1	102	0.11
59.2	87	0.10
59.3	93	0.10

59.4	102	0.11
59.5	95	0.10
59.6	105	0.12
59.7	82	0.09
59.8	79	0.09
59.9	95	0.10
60.0	88	0.10
60.1	89	0.10
60.2	93	0.10
60.3	80	0.09
60.4	88	0.10
60.5	88	0.10
60.6	84	0.09
60.7	86	0.09
60.8	78	0.09
60.9	89	0.10
61.0	75	0.08
61.1	77	0.08
61.2	78	0.09
61.3	83	0.09
61.4	89	0.10
61.5	95	0.10
61.6	106	0.12
61.7	116	0.13
61.8	76	0.08
61.9	78	0.09
62.0	73	0.08
62.1	85	0.09
62.2	86	0.09
62.3	95	0.10
62.4	104	0.11
62.5	83	0.09
62.6	78	0.09
62.7	88	0.10
62.8	106	0.12
62.9	100	0.11
63.0	83	0.09
63.1	49	0.05
63.2	59	0.07
63.3	53	0.06
63.4	96	0.11
63.5	89	0.10
63.6	73	0.08
63.7	71	0.08
63.8	67	0.07
63.9	64	0.07
64.0	63	0.07



64.1	63	0.07
64.2	57	0.06
64.3	61	0.07
64.4	59	0.07
64.5	66	0.07
64.6	64	0.07
64.7	62	0.07
64.8	64	0.07
64.9	66	0.07
65.0	61	0.07
65.1	67	0.07
65.2	64	0.07
65.3	63	0.07
65.4	61	0.07
65.5	57	0.06
65.6	59	0.07
65.7	61	0.07
65.8	60	0.07
65.9	65	0.07
66.0	70	0.08
66.1	66	0.07
66.2	71	0.08
66.3	68	0.08
66.4	73	0.08
66.5	96	0.11
66.6	136	0.15
66.7	88	0.10
66.8	82	0.09
66.9	82	0.09
67.0	91	0.10
67.1	85	0.09
67.2	94	0.10
67.3	116	0.13
67.4	100	0.11
67.5	54	0.06
67.6	43	0.05
67.7	65	0.07
67.8	63	0.07
67.9	45	0.05
68.0	52	0.06
68.1	52	0.06
68.2	52	0.06
68.3	61	0.07
68.4	51	0.06
68.5	54	0.06
68.6	64	0.07
68.7	71	0.08

68.8	82	0.09
68.9	76	0.08
69.0	60	0.07
69.1	40	0.04
69.2	54	0.06
69.3	38	0.04
69.4	40	0.04
69.5	40	0.04
69.6	47	0.05
69.7	52	0.06
69.8	61	0.07
69.9	49	0.05
70.0	48	0.05
70.1	44	0.05
70.2	50	0.06
70.3	79	0.09
70.4	67	0.07
70.5	43	0.05
70.6	69	0.08
70.7	57	0.06
70.8	51	0.06
70.9	44	0.05
71.0	57	0.06
71.1	40	0.04
71.2	42	0.05
71.3	46	0.05
71.4	40	0.04
71.5	41	0.05
71.6	30	0.03
71.7	39	0.04
71.8	46	0.05
71.9	44	0.05
72.0	27	0.03
72.1	29	0.03
72.2	41	0.05
72.3	38	0.04
72.4	75	0.08
72.5	46	0.05
72.6	18	0.02
72.7	17	0.02
72.8	16	0.02
72.9	26	0.03
73.0	41	0.05
73.1	12	0.01
73.2	11	0.01
73.3	11	0.01
73.4	19	0.02

73.5	21	0.02
73.6	15	0.02
73.7	10	0.01
73.8	15	0.02
73.9	30	0.03
74.0	19	0.02
74.1	14	0.02
74.2	8	0.01
74.3	8	0.01
74.4	10	0.01
74.5	7	0.01
74.6	11	0.01
74.7	14	0.02
74.8	7	0.01
74.9	4	0.00
75.0	3	0.00
75.1	5	0.01
75.2	3	0.00
75.3	4	0.00
75.4	3	0.00
75.5	4	0.00
75.6	3	0.00
75.7	3	0.00
75.8	3	0.00
75.9	4	0.00
76.0	2	0.00
76.1	4	0.00
76.2	4	0.00
76.3	4	0.00
76.4	3	0.00
76.5	4	0.00
76.6	3	0.00
76.7	5	0.01
76.8	3	0.00
76.9	4	0.00
77.0	5	0.01
77.1	3	0.00
77.2	5	0.01
77.3	5	0.01
77.4	4	0.00
77.5	5	0.01
77.6	5	0.01
77.7	4	0.00
77.8	4	0.00
77.9	4	0.00
78.0	5	0.01
78.1	4	0.00

<b>78.2</b>	5	0.01
<b>78.3</b>	5	0.01
<b>78.4</b>	8	0.01
<b>78.5</b>	6	0.01
<b>78.6</b>	5	0.01
<b>78.7</b>	3	0.00
<b>78.8</b>	4	0.00
<b>78.9</b>	4	0.00
<b>79.0</b>	5	0.01
<b>79.1</b>	5	0.01
<b>79.2</b>	2	0.00
<b>79.3</b>	4	0.00
<b>79.4</b>	6	0.01
<b>79.5</b>	9	0.01
<b>79.6</b>	10	0.01
<b>79.7</b>	10	0.01
<b>79.8</b>	16	0.02
<b>79.9</b>	10	0.01
<b>80.0</b>	4	0.00
<b>80.1</b>	10	0.01
<b>80.2</b>	13	0.01
<b>Over</b>	0	0.00

**Total Count** 90640

[illegible]

Record #	Date	Time	Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmax	LASmax Time	LApeak (max)	LApeak (max) Time	SPL 1 Count	Duration	SPL 2 Count	Duration	Peak 1 Count	Duration	Peak 2 Count	Duration	Peak 3 Count	Duration	LA50.00	LAS1.67	LAS8.33	LAS25.00	LAS50.00	LAS90.00	SEA	LCeq	LAeq	LCeq - LAeq	LAeq	LAeq - LAeq	# Overloads	Duration		
1	2019/11/14	13:04:58	00:10:01.7	00:10:01.7	00:00:00.0	59.8	87.6	31.5	13:13:33	80.2	13:08:29	97.2	13:05:21	10	45.8	0	0.0	0	0.0	0	0.0	0	0.0	-99.9	70.6	62.6	52.1	45.3	34.4	-99.9	67.8	59.8	8.0	64.3	59.8	4.5	0	0.0
2	2019/11/14	13:15:00	00:05:04.7	00:05:04.7	00:00:00.0	57.5	82.3	32.6	13:15:11	74.8	13:17:48	95.8	13:17:48	4	16.7	0	0.0	0	0.0	0	0.0	0	0.0	-99.9	70.6	58.4	46.5	38.7	34.3	-99.9	62.5	57.5	5.0	62.3	57.5	4.8	0	0.0



**Measurement 5**

11/14/2019

**Summary**

Filename	831_Data.401
Serial Number	1671
Model	Model 831
Firmware Version	2.314
User	
Location	
Job Description	
Note	
Measurement Description	
Start	2019/11/14 13:24:25
Stop	2019/11/14 13:39:27
Duration	0:15:02.2
Run Time	0:15:02.2
Pause	0:00:00.0

Pre Calibration	2019/11/14 11:59:01
Post Calibration	None
Calibration Deviation	---

**Overall Settings**

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRM831
Microphone Correction	Off
Integration Method	Linear
Gain	20.0 dB
Overload	125.0 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	57.5	54.5	59.5 dB
Under Range Limit	24.8	25.6	33.5 dB
Noise Floor	15.7	16.5	21.8 dB

**Results**

LAeq	58.2 dB
LAE	87.7 dB
EA	66.125 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2019/11/14 13:27:28 91.7 dB
LASmax	2019/11/14 13:39:21 75.7 dB
LASmin	2019/11/14 13:38:07 44.1 dB
SEA	-99.9 dB

LAS > 65.0 dB (Exceedence Counts / Duration)	3	24.3 s
LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s

**Community Noise**

	<b>Ldn</b>	<b>LDay 07:00-22:00</b>	<b>LNight 22:00-07:00</b>	<b>Lden</b>	<b>LDay 07:00-19:00</b>	<b>LEvening 19:00-22:00</b>	<b>LNight 22:00-07:00</b>
	58.2	58.2	-99.9	58.2	58.2	-99.9	-99.9
LCeq	69.1 dB						
LAeq	58.2 dB						
LCeq - LAeq	10.9 dB						
LAeq	59.8 dB						
LAeq	58.2 dB						
LAeq - LAeq	1.6 dB						
# Overloads	0						
Overload Duration	0.0 s						

**Statistics**

LAS0.00	-99.9 dB
LAS1.67	68.6 dB
LAS8.33	58.4 dB
LAS25.00	54.8 dB
LAS50.00	51.1 dB
LAS90.00	47.8 dB



### Calibration History

Prereq	Date	db re. 1V/PA	6.3	8.0	10.0
PRM831	2019/11/14 11:59:01	-27.5	87.3	72.1	71.9
PRM831	2019/09/26 15:08:50	-27.2	74.2	66.2	56.2
PRM831	2019/09/26 15:08:35	-27.2	64.8	74.8	56.2
PRM831	2019/09/26 7:12:43	-27.6	62.0	58.6	56.9
PRM831	2019/09/26 7:12:30	-27.6	63.5	51.7	56.4
PRM831	2019/09/25 7:16:30	-28.0	64.1	66.1	54.9
PRM831	2019/09/25 7:16:15	-28.0	61.2	59.4	67.2
PRM831	2019/09/25 7:16:00	-28.1	73.4	70.8	61.8
PRM831	2019/09/25 7:15:43	-27.9	70.3	70.5	67.5
PRM831	2019/09/25 7:15:30	-28.2	68.2	67.9	67.0
PRM831	2019/09/24 7:11:57	-28.3	62.6	69.5	68.1

Record #	Date	Time	Record Type	Cause	#	TH Record
1	2019/11/14	13:24:25	Run	Key	1	1
2	2019/11/14	13:39:27	Stop	Key	1	18

<b>Statistics</b>		
<b>Level (dB)</b>	<b>Count</b>	<b>Percent</b>
<b>Under</b>	0	0.00
<b>44.1</b>	21	0.02
<b>44.2</b>	46	0.05
<b>44.3</b>	81	0.09
<b>44.4</b>	23	0.03
<b>44.5</b>	24	0.03
<b>44.6</b>	27	0.03
<b>44.7</b>	11	0.01
<b>44.8</b>	20	0.02
<b>44.9</b>	61	0.07
<b>45.0</b>	173	0.19
<b>45.1</b>	232	0.26
<b>45.2</b>	221	0.24
<b>45.3</b>	70	0.08
<b>45.4</b>	76	0.08
<b>45.5</b>	49	0.05
<b>45.6</b>	51	0.06
<b>45.7</b>	73	0.08
<b>45.8</b>	157	0.17
<b>45.9</b>	175	0.19
<b>46.0</b>	187	0.21
<b>46.1</b>	417	0.46
<b>46.2</b>	268	0.30
<b>46.3</b>	400	0.44
<b>46.4</b>	436	0.48
<b>46.5</b>	414	0.46
<b>46.6</b>	330	0.37
<b>46.7</b>	175	0.19
<b>46.8</b>	231	0.26
<b>46.9</b>	313	0.35
<b>47.0</b>	309	0.34
<b>47.1</b>	291	0.32
<b>47.2</b>	404	0.45
<b>47.3</b>	481	0.53
<b>47.4</b>	389	0.43
<b>47.5</b>	323	0.36
<b>47.6</b>	604	0.67
<b>47.7</b>	833	0.92
<b>47.8</b>	847	0.94
<b>47.9</b>	686	0.76
<b>48.0</b>	801	0.89
<b>48.1</b>	638	0.71
<b>48.2</b>	971	1.08
<b>48.3</b>	1133	1.26
<b>48.4</b>	1334	1.48

48.5	1447	1.60
48.6	1336	1.48
48.7	1336	1.48
48.8	1546	1.71
48.9	1303	1.44
49.0	1389	1.54
49.1	1527	1.69
49.2	1496	1.66
49.3	1438	1.59
49.4	1544	1.71
49.5	1293	1.43
49.6	1289	1.43
49.7	1381	1.53
49.8	1356	1.50
49.9	1435	1.59
50.0	1088	1.21
50.1	942	1.04
50.2	1003	1.11
50.3	855	0.95
50.4	816	0.90
50.5	799	0.89
50.6	614	0.68
50.7	526	0.58
50.8	592	0.66
50.9	712	0.79
51.0	763	0.85
51.1	744	0.82
51.2	743	0.82
51.3	616	0.68
51.4	856	0.95
51.5	887	0.98
51.6	795	0.88
51.7	681	0.75
51.8	778	0.86
51.9	626	0.69
52.0	569	0.63
52.1	681	0.75
52.2	678	0.75
52.3	703	0.78
52.4	617	0.68
52.5	400	0.44
52.6	407	0.45
52.7	471	0.52
52.8	389	0.43
52.9	500	0.55
53.0	446	0.49
53.1	378	0.42

53.2	627	0.69
53.3	741	0.82
53.4	725	0.80
53.5	771	0.85
53.6	601	0.67
53.7	701	0.78
53.8	556	0.62
53.9	604	0.67
54.0	597	0.66
54.1	435	0.48
54.2	763	0.85
54.3	719	0.80
54.4	682	0.76
54.5	610	0.68
54.6	488	0.54
54.7	379	0.42
54.8	446	0.49
54.9	762	0.84
55.0	655	0.73
55.1	490	0.54
55.2	334	0.37
55.3	277	0.31
55.4	467	0.52
55.5	551	0.61
55.6	627	0.69
55.7	586	0.65
55.8	483	0.54
55.9	519	0.58
56.0	532	0.59
56.1	666	0.74
56.2	507	0.56
56.3	473	0.52
56.4	377	0.42
56.5	400	0.44
56.6	403	0.45
56.7	440	0.49
56.8	249	0.28
56.9	459	0.51
57.0	488	0.54
57.1	479	0.53
57.2	312	0.35
57.3	403	0.45
57.4	378	0.42
57.5	198	0.22
57.6	159	0.18
57.7	194	0.22
57.8	229	0.25

57.9	293	0.32
58.0	288	0.32
58.1	228	0.25
58.2	221	0.24
58.3	303	0.34
58.4	267	0.30
58.5	222	0.25
58.6	279	0.31
58.7	184	0.20
58.8	263	0.29
58.9	140	0.16
59.0	127	0.14
59.1	101	0.11
59.2	73	0.08
59.3	85	0.09
59.4	93	0.10
59.5	125	0.14
59.6	212	0.23
59.7	111	0.12
59.8	78	0.09
59.9	132	0.15
60.0	158	0.18
60.1	141	0.16
60.2	155	0.17
60.3	161	0.18
60.4	98	0.11
60.5	80	0.09
60.6	53	0.06
60.7	73	0.08
60.8	79	0.09
60.9	104	0.12
61.0	106	0.12
61.1	128	0.14
61.2	128	0.14
61.3	124	0.14
61.4	118	0.13
61.5	121	0.13
61.6	124	0.14
61.7	66	0.07
61.8	82	0.09
61.9	89	0.10
62.0	67	0.07
62.1	66	0.07
62.2	11	0.01
62.3	65	0.07
62.4	43	0.05
62.5	14	0.02

62.6	15	0.02
62.7	29	0.03
62.8	59	0.07
62.9	45	0.05
63.0	54	0.06
63.1	50	0.06
63.2	15	0.02
63.3	16	0.02
63.4	12	0.01
63.5	11	0.01
63.6	14	0.02
63.7	16	0.02
63.8	21	0.02
63.9	18	0.02
64.0	19	0.02
64.1	20	0.02
64.2	20	0.02
64.3	20	0.02
64.4	18	0.02
64.5	19	0.02
64.6	26	0.03
64.7	15	0.02
64.8	18	0.02
64.9	18	0.02
65.0	17	0.02
65.1	30	0.03
65.2	13	0.01
65.3	19	0.02
65.4	14	0.02
65.5	28	0.03
65.6	32	0.04
65.7	26	0.03
65.8	25	0.03
65.9	25	0.03
66.0	21	0.02
66.1	20	0.02
66.2	22	0.02
66.3	19	0.02
66.4	21	0.02
66.5	50	0.06
66.6	32	0.04
66.7	9	0.01
66.8	10	0.01
66.9	11	0.01
67.0	9	0.01
67.1	16	0.02
67.2	43	0.05

67.3	13	0.01
67.4	11	0.01
67.5	11	0.01
67.6	14	0.02
67.7	7	0.01
67.8	8	0.01
67.9	7	0.01
68.0	10	0.01
68.1	8	0.01
68.2	36	0.04
68.3	24	0.03
68.4	31	0.03
68.5	21	0.02
68.6	17	0.02
68.7	20	0.02
68.8	18	0.02
68.9	15	0.02
69.0	17	0.02
69.1	24	0.03
69.2	16	0.02
69.3	21	0.02
69.4	76	0.08
69.5	59	0.07
69.6	66	0.07
69.7	37	0.04
69.8	9	0.01
69.9	11	0.01
70.0	6	0.01
70.1	5	0.01
70.2	7	0.01
70.3	5	0.01
70.4	3	0.00
70.5	5	0.01
70.6	4	0.00
70.7	6	0.01
70.8	5	0.01
70.9	5	0.01
71.0	7	0.01
71.1	6	0.01
71.2	9	0.01
71.3	10	0.01
71.4	6	0.01
71.5	5	0.01
71.6	7	0.01
71.7	9	0.01
71.8	9	0.01
71.9	6	0.01



72.0	8	0.01
72.1	12	0.01
72.2	12	0.01
72.3	7	0.01
72.4	8	0.01
72.5	6	0.01
72.6	8	0.01
72.7	9	0.01
72.8	10	0.01
72.9	8	0.01
73.0	10	0.01
73.1	27	0.03
73.2	9	0.01
73.3	9	0.01
73.4	9	0.01
73.5	7	0.01
73.6	8	0.01
73.7	14	0.02
73.8	30	0.03
73.9	15	0.02
74.0	11	0.01
74.1	10	0.01
74.2	14	0.02
74.3	45	0.05
74.4	54	0.06
74.5	115	0.13
74.6	61	0.07
74.7	84	0.09
74.8	16	0.02
74.9	22	0.02
75.0	36	0.04
75.1	22	0.02
75.2	44	0.05
75.3	22	0.02
75.4	29	0.03
75.5	99	0.11
75.6	65	0.07
75.7	15	0.02
Over	0	0.00

**Total Count** 90220

[illegible]

Record #	Date	Time	Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time	LApeak (max)	LApeak (max) Time	SPL 1 Count	Duration	SPL 2 Count	Duration	Peak 1 Count	Duration	Peak 2 Count	Duration	Peak 3 Count	Duration	LA50.00	LA51.67	LA58.33	LA525.00	LA550.00	LA590.00	SEA	LCeq	LAeq	LCeq - LAeq	LAeq	LAeq	LAeq-LAeq	# Overloads	Duration
1	2019/11/14	13:24:25	00:05:34.3	00:05:34.3	00:00:00.0	54.3	79.6	45.9	13:27:28	72.2	13:27:29	91.7	13:27:29	1	4.4	0	0.0	0	0.0	0	0.0	0	0.0	-99.9	60.6	56.2	54.0	51.7	47.7	-99.9	64.0	54.3	9.7	58.7	54.3	4.4	0	0.0
2	2019/11/14	13:30:00	00:09:27.9	00:09:27.9	00:00:00.0	59.5	87.0	44.1	13:38:07	75.7	13:39:21	87.3	13:39:22	2	19.9	0	0.0	0	0.0	0	0.0	0	0.0	-99.9	72.4	59.9	55.6	50.6	47.9	-99.9	70.6	59.5	11.1	60.4	59.5	0.9	0	0.0